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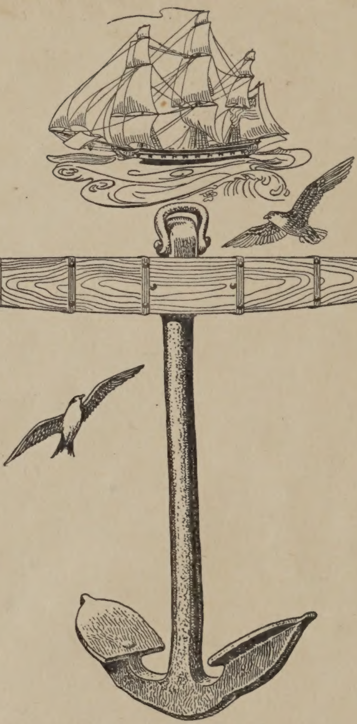

E.I.M.S.1799
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PEABODY MUSEUM
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E A Emmerson

THE

AMERICAN SHIP-MASTER'S GUIDE,

AND

COMMERCIAL ASSISTANT,

BEING AN ENLARGEMENT OF THE

SEAMAN'S MANUAL.

IMPORTANT TO MERCHANTS, SHIP-MASTERS, CONSULS, SUPERCARGOES,
MARINERS AND MERCHANTS' CLERKS.

PEABODY MUSEUM OF SALEM

BY FRANCIS G. CLARKE.

Second Edition, Improved.

BOSTON:
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1850

RECOMMENDATIONS.

After a full examination of the Seaman's Manual, presented us by Capt. F. G. Clarke, it is our opinion that the work is highly deserving the approbation of the commercial community. It will be found particularly useful to those who are not well acquainted with arranging a ship's accounts, for proportioning the spars, ascertaining the size of cables, weights of anchors for vessels of different dimensions, to cut the sails for vessels of all classes, to cut a gang of rigging on a sure and certain principle, to adjust the sextant, (which directions deserve particular attention ;) to apply Trigonometry to practical purposes ; to a complete understanding of the right ascension, and right ascension of the meridian ; and the principle on which the latitude is obtained from the observed altitude of the heavenly bodies, either on the upper or lower meridian. The method of obtaining the latitude by the North Star, will enable any one to construct a table, for its correction in altitude, for any year. *To obtain fresh from salt water.* The laws, usances, customs, monies of exchange, and exchange calculations, being compiled from the latest and best authors, will be found valuable. The exchange tables are very convenient ; and the marine laws, together with the definitions of its technicalities, will be found a most valuable appendage.—The whole combined is undoubtedly the most complete assistant for seamen and others now extant. There is one thing which should not be overlooked, and, having had much practice, we would beg leave to notice it particularly, before we close. The subjects are so arranged, that, should a vessel have the misfortune to be dismasted, and finally arrive at any port where no assistance could be obtained from practical sail-makers and riggers, the master may have a perfect guide for re-masting, re-sparing, re-rigging, and re-sailing his vessel, without any fear of mistake in these matters.

E. Webster, Jr. *Master and Factor in the East India Trade.*
J. C. Churchill, *Merchant.*
John Day, *Captain in the East India Trade.*
Wm. A. Howard, *U. S. Navy.*
Enoch Preble, *brother of the late Commodore Preble.*

The following communications were received by the author shortly after the work issued from the press. As it cannot be supposed that seamen generally are competent judges of that branch of the Law, introduced into this work, which they have so frequent occasion to consult ; the author begs leave to refer them particularly to the communication signed by Simon Greenleaf, Esq., *Royal Professor of Law at Harvard University, Mass.*, which no doubt will give them entire confidence in this part of the work :—

"Having had occasion to examin the 'Seaman's Manual,' published by Capt. Francis G. Clarke, I can cheerfully bear testimony to its merits. Though its title indicates that it is addressed only to seamen, yet the book will be found highly useful to all classes of men, in any manner engaged in commerce. Of much of the instructions to ship-masters, relating to nautical affairs, I am not qualified to speak ; but the work will be particularly valuable to merchants and supercargoes, as well as others, for a very brief and plain abstract of the law of bills of exchange ; and especially for one of the most faithful, lucid and correct summaries of the marine law with which I am acquainted. This part of the book, it is believed, may be relied on, it being understood to be the work of a jurist known to be deeply versed in this branch of the law.

"Simon Greenleaf, *Royal Professor of Law at Harvard University, Mass.*"

Capt. Francis G. Clarke,—Dear Sir: Agreeably to your request, I thoroughly examined your "Seaman's Assistant." I think it an excellent work, containing all that is necessary, and nothing superfluous. It is valuable, undoubtedly, for all classes of seamen; containing the most practical matter of any work of the kind with which I am acquainted. The marine laws, together with the monies, laws of exchange, and exchange calculations, appear to me not only valuable to seamen, but would be found also valuable in the counting-room of the merchant —and I believe it would be generally acknowledged, after a fair investigation, that the work is peculiarly adapted for the use of such as are in any way engaged in commerce.

EDWARD KELLERAN, *Master and Owner of the bark Mexico.*
Portland, 1833.

Capt. F. G. Clarke,—Dear Sir: Your "Seaman's Manual" has been in my possession more than a year; and, after having given it a careful perusal, I am happy to have it in my power to bear testimony to its usefulness. I consider it decidedly the most valuable compendium of information ever offered to the sailor. The rules given by you for rigging and sail-making are very concise and practical; I have used them with invariable success. The diagrams accompanying your explanation of the principles on which some of the calculations in Nautical Astronomy rest, are very satisfactory, and will certainly enable beginners to understand this subject better than any former treatise that has come to my knowledge. In giving to seamen, in the brief manner you have, the laws and usances guiding the course of exchange with different parts of the world, you have explained a subject more fraught with embarrassment than any other with which they have to contend in transacting foreign business—and in your epitome of the laws relating to Shipping and Insurance, you have given to them rules for their guidance that are at once simple and accurate.

In conclusion, I would state that I have shown your work to many merchants and masters of vessels, both at home and abroad; and from all who have had an opportunity of examining it, I have heard but one opinion, and that most emphatically in its favor. I trust that ere long you will be obliged to issue a new edition of this work, for no master of a vessel should be without one.

Yours, truly, R. SOUTHGATE BOYD, *Master and Factor of the ship Roscius.*
Boston, 1833.

Capt. Francis G. Clarke,—Sir: As I had made up my mind that the "Seaman's Manual" was the most practical as well as the most useful work for seamen, now extant; I was highly gratified to hear THOMAS NEVINS, Esq. U. S. Vice Consul at Waterford, (Ireland,) express his opinion on the work in the most flattering terms. He said: "I consider the work most valuable for seamen; to me it is particularly so, as it contains the best summary of the marine laws, laws and monies of exchange, &c. that I have ever before examined,"

Mr. Nevins being very desirous to possess the work, I was happy to have it in my power to present him with a copy. Yours, &c. WM. GORHAM, JR.
New York, 1833. *Late Master of the brig Richmond.*

In an advertisement of Pearson & Little, Booksellers, we notice the following:—

We consider ourselves at liberty to state that Joseph Harrod, Esq. merchant at New Orleans, has expressed his opinion of the work in the most unqualified terms of approbation. He says, "It is highly valued by our merchants, as it contains the monies of exchange, and exchange calculations on many parts of Europe, which they have long sought for in vain."

ences to the former; but also, because there are analogies, and there are diversities, between the Law of Ships and Shipping, and the doctrines of insurance, which will, not unfrequently, be important for the Ship-Master to notice. It is one thing for him to know what is lawful or expedient, when his ship is uninsured; but his duty, when the ship is insured, may be a very different thing. It then becomes important to know how his acts may affect the insurance,—the nature, amount, and conquences of which, he should carefully investigate, whenever his orders may not be sufficiently definite, and leave to him a discretionary power, according to circumstances; or whenever circumstances may render a compliance with his orders impossible. There may be cases, where the master ought carefully to ascertain all the risks which the insurer has taken upon the property confided to his care, and what risks remain upon his owner uncovered by insurance.

It is not pretended that the Laws herein collated, or which could possibly, in any work, however extensive, be provided, will suit every possible case, which may arise; the object intended, and indeed the only object practicable, is, to give such a view of the whole subject, as will enable a well-regulated mind, upon safe grounds, to ascertain the spirit of the Law, and develope the rule of any case, not herein contained, by the settled principles which are laid down.

A part of this work contains some words, which are not in very common use. I have selected all such as seemed to me to require it, and added, with the assistance of the before-mentioned gentleman, as to the law terms and phrases, such an explanation as I hope will be considered sufficient.

Perhaps it is necessary for me to mention, that at first sight there might appear an absurdity to a *Seaman*, in Fig. 41, in having the fore and aft stays cross the yards on the larboard side, thereby appearing to prevent the yards from being squared or braced round. I would have him bear in mind that this figure merely represents the method of delineating or projecting a vessel, in order to ascertain the length of her standing and running rigging; hence, if every stay, shroud, &c. be represented in its proper place, it is quite immaterial on which side the stays, &c. are drawn in his projection.

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PREFACE.

The following work was undertaken at the suggestion of some friends, with the persuasion that much useful matter might be introduced in an abridged form which has hitherto been found in large and expensive treatises only. The author,* in early life, long felt the need of a work containing simple directions on such subjects as are introduced in the following pages: He has the satisfaction to believe that he has not been mistaken in the opinion that such a work was much needed, from the very ready sale which it has met with, and the great number of communications which he has received from various parts of the Union and elsewhere, bearing testimony to its usefulness; some of which, and as many as could be conveniently inserted, are to be found on the preceding pages, to which the reader is referred.

It cannot be expected that a work which embraces such a variety of matter should fully discuss each particular subject; the object has been simply to prepare a work, in a condensed form, which would answer as a daily reference for such as are in any way engaged in commerce.

In a work of this kind, simplicity and perspicuity were deemed very important; these have been kept steadily in view throughout.

The method of keeping a *Ships' Accounts* is so arranged, that the author flatters himself it cannot be misunderstood; and such remarks and directions are given under each respective head as will greatly assist the learner in acquiring a knowledge of the system.

As the object is simply to show the proper form of arranging a ships' accounts, it was not deemed important that the amount of *sales* or purchases of each article should be represented in the columns precisely correct. It was thought sufficient to transfer the foot of each account for the voyage, *correctly*, into the *account current*. This having been done, any errors arising elsewhere must be quite unimportant. Directions, as far as they were considered necessary, both for making the sails and cutting the rigging for merchant vessels are given in this work according to the custom of our Riggers and Sail-Makers.

For a full understanding of some subjects, it seemed necessary to introduce Trigonometry, although at a late period, even after a considerable portion of the work had been printed.

The author has made such extracts from *Kelly's Cambist* as he thought would be most useful to Seamen. This is undoubtedly the best work of the kind extant. It was compiled by the direction of the British Government, and is considered the best authority for the Usances, Monies, and Laws of Exchange, in the principal commercial cities of the world.

The principle on which the Latitude is obtained from the observed meridian Altitude, Right Ascension, Right Ascension of the Meridian, Latitude from the observed Altitude of the North Star, &c. &c. are given to enable the young beginner in Nautical Astronomy to reason clearly on these subjects, without any embarrassment, or being obliged to confine himself particularly to Rules. It was thought advisable, therefore, to introduce these principles, illustrating the whole by appropriate diagrams.

---

* Twenty years of the author's life were spent upon the ocean—fourteen of which he was Master and Factor.

The tables for reducing the French, Holland, Portuguese, and British currencies to that of the United States, were constructed on the par value of these currencies, as follows: The par value of the French Franc is $18\frac{3}{4}$ cents, the Dutch Gilder, 40 cents, the Portuguese or Brazilian Millree, 1 dol. 25 cents, and 4 shillings 6 pence sterling, one dollar.

These tables were calculated to the nearest fraction; that for reducing dollars to pounds sterling to the nearest hundredth of a farthing. It was not absolutely necessary to enter this last column; but as it will enable any one to test the correctness of this table, it was thought best to enter it as it is.

The Marine Laws were compiled by James D. Hopkins, Esq. an eminent Lawyer, of Portland. From his extensive knowledge of these particular subjects, the author flatters himself they will afford every assistance to the mariner which can be required.

The author's original design was to obtain instructions and directions to the Ship-Master in cases which naturally arise in the course of his employment; but the gentleman above mentioned has persuaded him to believe that "mere rules and general instructions would be insufficient, effectually to answer the objects proposed by them; as under various and varying circumstances, cases for the master's consideration will often arise, and which cannot be anticipated, in which mere instructions, without stating also the principles and reasons upon which they are founded, will be useless, and sometimes even worse than useless; for they might mislead rather than instruct." A note from that gentleman mentions that "the Law relative to Ships and Shipping, has been abridged as much as possible, without rendering it obscure by too much brevity. The same may be said of the Doctrine of Marine Insurances; and technicalities have been avoided as much as possible. Although much more, upon the latter subject, would be necessary to a treatise upon the Law of Insurance, yet it is believed, that more cannot be necessary for the information of a Ship-Master."

A general Index to all the Law introduced into this work is inserted next after the Summary of the Law of Marine Insurance.

The above-named gentleman observes, that "in this index the more obvious divisions of the different branches of the subject are alphabetically noticed, and the minute particulars of each are also noticed, in alphabetical order.

He says it was somewhat difficult to make an index for this purpose, as the pages are large, and a variety of matter is often discussed in a single page; but generally it will be found that *the commencement of each paragraph*, or the words *in italics* which it contains, will render a reference from the index to the law, if due attention be paid, easy and useful." The reader should take into consideration, whenever he looks into the index for direction to any part of the work, which he wishes to find, that what he seeks may be found under different heads. For instance, *in case of the taking of a ship insured against capture, and detention of Princes, the insured may, in certain cases, abandon the property insured to the underwriters.* Here the reader may not know, sometimes, whether he should look under *capture*, under *abandonment*, or under *arrest of Princes*, or under *some particular head* which brings him within the predicament of either. In such case he should look, if necessary, under each head, until he finds the object of his search.

The Index to the Law is arranged for publication in adjoining columns, upon the same pages; the left hand columns direct to the Law of Ships and Shipping, while the opposite, or right hand columns, contain references to the Law of Insurance. This mode is considered most convenient, for it may, sometimes, be useful to consult both; not only because, in the latter work, there are refer-

THE

SHIP-MASTER'S

COMPLETE METHOD OF KEEPING ACCOUNTS.

CHAPTER I.

OF DISBURSEMENTS AND OTHER ACCOUNTS.

The method of Book-Keeping is the art of placing our accounts in such a plain manner, that the whole, or any part, of the money received, and advanced, may, with the greatest clearness, be ascertained in a very little time.

Whatever is paid upon the Ship's account, the Ship must be Dr. to it.

Whatever is received upon the Ship's account, the Ship must have Cr. for the same.

It is recommended to every Captain to keep a small memorandum book to set down the money as he lays it out, both for himself and the Ship; likewise the money which he receives; lest at any time it slip his memory and be forgotten; then these accounts can be easily entered into a larger book at leisure. By this method, he can easily tell whether any thing has been omitted, or not; by adding up the money paid, and taking it from the money received; if what remains is equal to the cash he has on hand, nothing has been forgotten. If they do not agree, then it is plain something has been omitted. Losses have frequently fallen upon owners of Ships, for the want of proper care being taken by their Captains in signing Bills of Lading. When there is the least reason to suspect the quantity is not right, or that there is any damage in the goods, always write,

(If hemp, flax, bars of iron, &c.)

Quantity and conditions unknown, and three bundles of hemp in dispute, if on board, to be delivered. CHARLES WILLIAMS.

(If linen, yarn, bales, hardware, &c.)

Insides and contents unknown to CHARLES WILLIAMS.

(If tar, wine, brandy, turpentine, &c.)

Contents and conditions unknown; not to be accountable for leakage, and it is agreed that the freight shall be paid on the quantity shipped.

CHARLES WILLIAMS.

The following accounts and examples will be sufficient for any voyage whatever, to render a Captain's accounts and transactions concise and pleasant to himself; they are not limited to one voyage alone, but there are several voyages, and to many ports the same voyage. These are so plain, as will give him a perfect idea how to settle such voyages, how long soever they may happen to be. There are some trifling differences in the forms of the Bill of Disbursements, Invoice, and Account of Sales; but either can be taken at pleasure. We shall commence with the Invoice outward.

INVOICE OF CARGO OUTWARD.

Invoice of Merchandize shipped on board the ship Stranger, E. King, master, now in the harbor of Portland, and bound to Pernambuco, Brazils; on account and risk of Sirus Bates, a native citizen of the United States, and resident of Portland, and consigned to said master, for sales and returns, viz:

1049	Bbls. superfine Flour, at	$6,37½ per bbl.	6687	37½
500	Drums of Cod Fish, at	4,00 per drum,	2000	00
376	Boxes of Soap, containing 11,280 lbs. at	,06¾ per lb.	761	40
100	" Sperm Candles, cont. 4000 lbs. at	,29½ per lb.	1180	00
100	Qr. chests Imperial Tea, cont. 1300 lbs. at	,75 per lb.	975	00
100	Bbls. No. 3 Mackerel, at	3,50 per bbl.	350	00
50	" Rosin, at	2,00 per bbl.	100	00
40	Casks Whale Oil, cont. 6800 galls. at	,31½ per gall.	2142	00
10	Bbls. No. 2 Beef, at	7,50 per bbl.	75	00
20	" No. 3 " at	4,10 per bbl.	82	00
40	" No. 1 " at	8,50 per bbl.	340	00
15	" Mess " at	10,50 per bbl.	157	50
50	" American Gin, cont. 1500 galls. at	,36½ per gall.	547	50
10	Casks Olive Oil, containing 1500 galls. at	,62½ per gall.	937	50
25	Cases Nankins, containing 600 pieces, at	,70 per piece.	420	00
			16754	87½
	CHARGES.			
	Porterage,	$16,47		
	Cooperage,	18,54		
	Wharfage,	23,17	58	18
			16813	05½

Portland, May 30, 1829.

Errors and omissions excepted.

SIRUS BATES.

ACCOUNT OF SALES OF CARGO.

Sales and nett proceeds of cargo per ship Stranger, at Pernambuco, E. King, Master.

500	bbls. of Flour, at	R 10,700 per bbl.	5350	000		
249	“ “ at	11,000 “	2739	000		
300	“ “ at	12,000 “	3600	000		
1049	- - - - - - - - - -				116 9	000
100	drums of Cod Fish, at	8,200 per drum,	820	000		
210	“ “ “ at	9,000 “	1890	000		
190	“ “ “ at.	8,500 “	1615	000		
500	- - - - - - - - - -				4325	000
125	boxes Soap, weigh. nett 3750 lbs.	at ,150 rs. per lb.	562	500		
125	“ “ “ “ 3750 “	at ,140 rs. “	525	000		
75	“ “ “ “ 1875 “	at ,120 rs. “	225	000		
76	“ “ “ “ 1995 “	at ,146 rs. “	291	270		
401	- - - - - - - - - -				1603	770
100	boxes Sp. Cand. w. n't 4000 lbs.	at ,480 rs. per lb.			1920	000
100	qr. boxes Im. Tea, “ 1300 “	at 1,000 rs. “			1300	000
100	bbls. No. 3 Mackerel,	at 6,200 rs. pr.bbl.			620	000
10	bbls. Rosin, at	4,500 rs. per bbl.	45	000		
10	“ “ at	5,000 rs. “	50	000		
10	“ “ at	6,000 rs. “	60	000		
20	“ “ at	4,100 rs. “	82	000		
50	- - - - - - - - - -				237	000
40	casks W. Oil, con. 6800 gals. at	,410 rs. per gal.			2788	000
10	bbls. No. 2 Beef, at	9,000 rs. per bbl.			90	000
20	“ “ 3 “ at	6,000 rs. “			120	000
40	“ “ 1 “ at	11,000 rs. “			440	000
15	“ Mess “ at	13,000 rs. “			195	000
10	bbls. Gin, at	27,200 rs. per bbl.	272	000		
10	“ “ at	28,000 rs. “	280	000		
20	“ “ at	26,000 rs. “	520	000		
10	“ “ at	29,000 rs. “	290	000		
50	- - - - - - - - - -				1364	000
		Amount carried over,			26691	770

ACCOUNT OF SALES—CONTINUED.

Amount brought over,		R.	26691	770
29 casks Olive Oil, cont. 1500 galls. at R1,000 per. gal.			1500	000
25 cases Yellow Nankins, cont. 600 ps. at 0,800 per ps.			480	000
			28671	770
CHARGES.				
Duties 15 per cent. on Custom House valuations,	2594	360		
Porterage,	26	860		
Storage,	46	145		
Commissions and Guarantee 5 per cent.	1433	588	4100	953
			24570	817
Pernambuco, Aug. 10, 1829.				
Errors and omissions excepted.				
E. KING.				

REMARKS.

This form of an account of sales is to be preferred to that which is ruled with two columns only; as the same article in a cargo is frequently sold at different prices, you can enter the sum at each price in the first columns, and carry the whole amount of gross sales of that article into the next column.

All expenses on the cargo, such as duties, porterage, storage, &c. should be entered at the foot, and deducted from the gross amount of sales, for the nett sales.

The nett amount of sales must be entered on the credit side of the Account Current with your owners. (See Account Current of this voyage.)

Accounts in the Brazils are kept in mill reis and reis, marked thus, R1, one mill rei; 10 reis, ten reis; one thousand reis is a mill rei; par value is $1,25; 800 reis are equal to one dollar; and eight reis, of course, are equal to one cent.

INVOICE OF CARGO HOMEWARD.

Invoice of Merchandize shipped on board the ship Stranger, now in the harbor of Pernambuco, and bound to Boston, by E. King, Master, on account and risk of Sirus Bates, a native citizen of the United States, and resident of Portland, and to him consigned, viz :

3410 dry salted Hides,				
750 weigh 22500 lbs. at 90 rs. per lb. R.	2025	000		
600 “ 24000 “ at 100 “	2400	000		
810 “ 21060 “ at 85 “	1790	100		
550 “ 20900 “ at 95 “	1985	500		
Refuse, 100 “ 1900 “ at 45 “	85	500		
“ 200 “ 4000 “ at 60 “	240	000		
“ 100 “ 1500 “ at 47 “	70	500		
“ 100 “ 2176 “ at 65 “	141	440		
“ 200 “ 4600 “ at 70 “	322	000	9070	040
60 boxes of Sugar,				
10 “ w. nett 624 arrobes, 14 lbs. at 1,800 per arrobe,	1123	987		
10 “ “ 546 “ 18 “ at 1,650 “	901	828		
10 “ “ 496 “ 27 “ at 1,780 “	884	302		
10 “ “ 512 “ 30 “ at 2,000 “	1024	875		
20 “ “ 1240 “ 00 “ at 1,500 “	1860	000	5794	992
110,000 Horns, at R 40 per M.			4400	000
			19265	032
CHARGES.				
Duty on Hides, 70 rs. each,	238	700		
“ Sugar,	164	646		
“ Horns,	150	000		
Porterage and beating Hides,	57	436		
Embarking fees,	49	118		
Commissions 2½ per cent.	498	108	1157	408
Pernambuco, Aug. 10, 1829.			20422	440

Errors and omissions excepted.

E. KING.

REMARKS.

The Invoice shows the first cost of the cargo, and all charges thereon. You can place the charges at the foot, or to each article separately. (See next example.) The amount at the foot of the Invoice must be entered on the Dr. side of the account current with your owners.

DISBURSEMENTS AND PORT CHARGES

Paid on the ship Stranger, at Pernambuco, by E. King, master.

Cash paid Health Visit,	R 17	200
“ “ Pilotage inward and outward,	40	376
“ “ Guards on board,	37	564
“ “ 3 arrobes of Coffee, at 2 mill per arrobe,	6	000
“ “ Boat hire,	1	440
“ “ Manifesting ship's stores,	1	654
“ “ Guardamore's visit,	10	400
“ “ Conducting guard,	1	280
“ “ Consul's fees,	4	800
“ “ Cooper's bill of water casks,	7	040
“ “ Anchorage and tonnage duty,	97	340
“ “ Outward clearance,	42	300
Cash advanced Wm. West,	10	247
“ “ E. Orne,	8	476
“ “ E. Payne,	15	496
“ “ H. Ingersoll,	12	596
“ “ R. Proctor,	9	396
Cash paid for fresh provisions and vegetables,	19	376
“ “ Ship Chandler's bill,	76	410
“ “ Fort fees,	4	310
	413	671

Pernambuco, Aug. 10, 1829.

Errors and omissions excepted.

E. KING.

REMARKS.

The port charges, money advanced crew, and all expenses paid on the ship, must be charged in this bill. You should never charge sundries, for it denotes a loose manner in keeping your accounts, and sometimes creates suspicion, however honest a man may be. The amount of this bill must be entered on the Dr. side of the account current with your owners.

These remarks are applicable to all bills of disbursements.

SETTLEMENT OF VOYAGE FIRST.

Dr. Mr. Sirus Bates, owner of the ship Stranger, in Account Current with E. King. **Cr.**

To amount of Invoice, R.	20422	440	By net sales of cargo, as pr. account rendered,	24570	817
" disbursements and port charges, as pr. bill,	413	671			
" cash in three patack ps.	3734	706			
	24570	817		24570	817
			Pernambuco, Aug. 10, 1829.		
			Errors and omissions excepted.		
			E. KING.		

REMARKS.

The Dr. side of this account should show all charges on the ship, (or owners,) which should be included in the Bill of Disbursements, and charged as above. The Invoice and Cash (if any has been remitted, or is on board) must be entered on the Dr. side also. Credit the account by the net sales of the cargo, and if nothing has been omitted, it will balance. On your arrival, you must present your owners with the Account of Sales, Invoice, Bill of Disbursements, and Account Current. These remarks are applicable to the Account Current generally.

The following set of accounts are intended to show how your accounts are to be arranged, when going to many ports the same voyage.

Let us suppose a ship sails from Boston to Havana, with an assorted cargo on board; from thence to Havre de Grace, from thence to Pernambuco, (Brazils) where she finally closes her voyage, and returns to Boston.

COMMENCEMENT OF VOYAGE SECOND.

Invoice of Merchandize shipped on board the ship Henry, now in the harbor of Boston, and bound to Havana, Charles Williams, Master, on account and risk of Wm. Shaw, a native citizen of the United States, and resident of Boston, and consigned to said Master for sales and returns, viz.

1600	Bbls. of superfine Flour, at $6.50 per bbl.	$10,400.00		
	Porterage, 6 cts. “ “	96.00		
	Lining, 3 “ “ “	48.00	10554	00
20	Pipes Cognac Brandy, cont'g 3200 galls. at 92 cts. per gall.	2944.00		
	Porterage, 12½ cts. per pipe,	2.50		
	Cooperage,	2.36	2948	86
50	Boxes of Olive Oil, one doz. each, at 3.50 per box,	175.00		
	Porterage, 3 cts. per box,	1.50		
	Renailing and binding,	75	177	25
100	Bbls. No. 1 Beef, at 9 25 per bbl.	925 00		
50	“ “ 2 “ at 7.50 “ “	375.00		
	Porterage, 3 cts. per bbl.	4.50		
	Cooperage,	2.37½	1306	87
300	Boxes of Soap, weigh. net 9000 lbs. at 6¾ c. per lb.	562.50		
	Porterage, 1 c. per box,	3.00	565	50
40	Boxes Sperm Candles, 30 lbs. each, 1200 lbs. at 28½ c. per lb.	342.00		
50	“ “ “ 35 “ 1750 “ “ “ “	498.25		
	Porterage, 2 c. each,	1.80	842	05
100	Boxes Tallow Candles, weigh. net 3000 lbs. at 12½ c. per lb.	375.00		
	Porterage, 2 c. per box,	2 00	377	00
20	Boxes Shoes, cont'g 1000 pairs, at 85 c. per pair,	850 00		
20	“ at 75 cts. per box,	15 00		
	Porterage, 6 cts. “ “	1.20	866	20
50	Bbls. No. 1 Pork, at $11.50 per bbl.	575.00		
	Cooperage, &c.	10.00		
	Porterage, 4 c. per barrel,	2.00	587	00
	Wharfage, $16.47		16	47
			18231	20
	Boston, Nov. 3, 1829.			
	Errors and omissions excepted.			
	WM. SHAW.			

REMARKS.

In this account, the expenses are charged to the first cost of each article, which shows the cost of the article on board; which, I am of opinion, is to be preferred to the other form.

SALES OF THE FIRST CARGO.

Sales and net proceeds of cargo per ship Henry, Charles Williams, Master, at Havana.

400	Bbls. Flour, at	$17.4 per bbl.	7000	0		
500	" " at	18.0 " "	9000	0		
300	" " at	16.3 " "	4912	4		
200	" " at	17.2 " "	3450	0		
200	" " at	16.5 " "	3325	0		
1600	. . . .				27687	4
5	Pipes Cognac Brandy, containing 800 galls. at	1.4 per gall.	1200	0		
4	" " " " 640 " at	1.3 " "	880	0		
6	" " " " 960 " at	1.2 " "	1200	0		
5	" " " " 800 " at	1.3 " "	1100	0		
20	. . . .				4380	0
40	Bbls. No. 1 Beef, at	10.0 per bbl.	400	0		
40	" " " at	11.3 " "	455	0		
20	" " " at	12.0 " "	240	0		
100	. . . .				1095	0
20	Bbls. No. 2 Beef, at	9.3 per bbl.	187	4		
20	" " " at	8.7 " "	177	4		
10	" " " at	9.2 " "	92	4		
50	. . . .				457	4
100	Boxes of Soap, containing 30 quintals, at	8.0 per quintal,	240	0		
50	" " " " 15 " at	9.0 " "	135	0		
100	" " " " 30 " at	9.2 " "	277	4		
50	" " " " 15 " at	9.1 " "	136	7		
300	. . . .				789	3
40	Boxes Sperm Candles, containing 12 quint. at	30.0 per quint.			360	0
100	" Tallow " " 30 " at	15.0 " "			450	0
5	" Shoes, containing 250 pairs, at	1.7 per pair,	468	6		
5	" " " 250 " at	2.0 " "	500	0		
5	" " " 250 " at	1.6 " "	437	4		
5	" " " 250 " at	1.3 " "	343	6		
20	. . . .				1750	0
40	Bbls. No. 1 Pork, at	15.0 per bbl.	600	0		
10	" " " at	17.0 " "	170	0		
50	. . . .				770	0
	CHARGES.				37739	3
	Duties on 1600 bbls. of Flour, at $7.4 per bbl.		12000	0		
	" " 20 pipes of Brandy,		810	0		
	" " 150 bbls. of Beef,		240	0		
	" " 90 quintals of Soap,		270	0		
	" " 12 " of Sperm Candles,		89	5		
	" " 30 " of Tallow,		90	0		
	" " 50 bbls. Pork,		120	0		
	Porterage,		54	4		
	Storage,		13	6		
	Cooperage,		37	5	13725	4
	Net Sales,				24013	7

HAVANA, Dec. 13, 1829. Errors and omissions excepted.
CHARLES WILLIAMS.

DISBURSEMENTS AND PORT CHARGES,

Paid on the ship Henry, Charles Williams, Master, at Havana.

Cash paid soldier of the Moro,	$ 2	00
“ “ Governor's interpreter,	2	50
“ “ Declaration and oath,	4	38
“ “ Health visit,	1	38
“ “ Guard Major's visit,	5	50
“ “ Guards on board 25 days,	50	00
“ “ Telegraph fees,	4	00
“ “ Notary inward and outward,	57	30
“ “ Custom-House interpreter,	10	00
“ “ Tonnage duty,	775	00
“ “ Anchorage,	40	00
“ “ Com. of Marines,	12	50
“ “ Stamps and despatch,	2	50
“ “ Pilotage outwards,	12	36
Cash paid for fresh provisions,	10	37½
Cash advanced Wm. Shaw,	3	50
“ “ H. Gavot,	2	37½
“ “ G. Peir,	5	62½
“ “ Wm. Ruee,	4	25
“ “ M. Head,	7	10
Cash paid for 100 lbs. of Coffee,	9	50
“ “ for 100 lbs. brown Sugar,	5	54
“ “ for 20 galls. Rum for people.	10	00
	1037	68½

Havana, Dec. 13, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

REMARKS.

It will be perceived, that the charges in this, and the preceding Bill of Disbursements, are entered indiscriminately: the better plan, however, will be, to rule for four columns, and enter the Government charges, under the head of Port Charges; all expenses paid on the ship, under the head of Disbursements; and all money advanced your crew, under the head of Advances. These being entered under each head respectively, in the first columns, and the sum of the Port Charges, Disbursements, and Advances, respectively, in the second columns, will exhibit, at one view, the Government charges, the expenses paid on the ship by the master, and the money advanced abroad. *(See the following Bill of Disbursements at Havre de Grace.)*

This last charge, also, should be entered on the shipping-paper in the column under the head of advanced abroad.

It frequently happens, that charges belonging to the sales of the cargo abroad, as well as those belonging to the Invoice, are entered in this bill: this should not be done; for the account of sales in this case, does not show the net sales; neither does the Invoice exhibit the whole cost of the cargo on board.

INVOICE OF MERCHANDISE,

Shipped on board the ship Henry, Charles Williams, Master, now in the harbor of Havana, and bound to Havre de Grace, on account and risk of Wm. Shaw, a native citizen of the United States, and resident of Boston, and consigned to said Master, viz.

	612 boxes white and brown Sugar.				
50	Boxes white, weigh. net 800 arrobes, at $1½ pr. ar.	$ 1200	00		
50	“ “ “ “ 836 “ at 1.60 “ “	1337	60		
75	“ “ “ “ 1200 “ at 2.00 “ “	2400	00		
80	“ “ “ “ 1200 “ at 2.20 “ “	2640	00		
100	“ brown, “ “ 1666,16 “ at 1.31¼ “ “	2187	46½		
257	“ Muscovado, “ 4008.10 “ at 1.31¼ “ “	5260	50		
	Export duty on 612 boxes, at $2.15 per box,	1315	80		
	Porterage,	47	30		
	Labor, weighing, and embarking,	93	54	16482	20½
	500 bags of Coffee.				
100	Bags, 3d quality, weigh. net 11,500 lbs. at 5¼ pr.ql.	603	75		
100	“ 2d “ “ “ 11,125 “ at 7 pr.ql.	778	75		
300	“ 1st “ “ “ 33,600 “ at 8 pr.ql.	2688	00		
	Export duty on 562 ql. 25, at 73½ per ql.	413	25		
	500 bags, at $\frac{25}{100}$ per bag,	125	00		
	Porterage,	13	26		
	Labor and embarking,	12	36	4634	37
				21116	57½

HAVANA, Dec. 13, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

SETTLEMENT OF THE VOYAGE FROM BOSTON TO HAVANA.

Dr. Mr. William Shaw, owner of the ship Henry, in Account Current with Charles Williams. Cr.

	$			$	
To amount of Invoice, $	21116	57½	By net sales of cargo, as per account rendered,	24013	87½
" disbursements and port charges, as per bill,	1037	68½			
" cash in specie dollars, remitted per ship Clio, - - - - -	1859	61½			
	24013	87½		24013	87½
			Havana, Dec. 13, 1829.		
			Errors and omissions excepted.		
			CHARLES WILLIAMS.		

SALES OF THE SECOND CARGO AT HAVRE.

Sales and net proceeds of Cargo, per ship Henry, Charles Williams, Master, at Havre de Grace.

	612 Boxes of Sugar.				
100	Boxes weigh. net, 48,900 lbs. at 69 centimes per lb. f.	33741	00		
25	“ “ “ 10,000 “ at 70 “ “ “	7000	00		
50	“ “ “ 20,000 “ at 72 “ “ “	14400	00		
20	“ “ “ 7,500 “ at 75 “ “ “	5625	00		
60	“ “ “ 22,500 “ at 74 “ “ “	16650	00		
50	“ “ “ 20,833 “ at 55 “ “ “	11458	15		
50	“ “ “ 20,833 “ at 57 “ “ “	11874	81		
129	“ “ “ 50,505 “ at 54 “ “ “	27272	70		
128	“ “ “ 49,705 “ at 56 “ “ “	27834	80	155856	46
	500 Bags of Coffee.				
40	Bags weigh. 4600 lbs. tare, 3 per cent. at 43 cts. per lb.	1919	52		
60	“ “ 6900 “ “ “ “ “ at 45 “ “ “	3011	85		
30	“ “ 3330 “ “ “ “ “ at 55 “ “ “	1776	50		
50	“ “ 5550 “ “ “ “ “ at 56 “ “ “	3015	04		
20	“ “ 2245 “ “ “ “ “ at 57 “ “ “	1241	46		
100	“ “ 10800 “ “ “ “ “ at 65 “ “ “	6809	40		
50	“ “ 6000 “ “ “ “ “ at 67 “ “ “	3899	40		
20	“ “ 2240 “ “ “ “ “ at 66 “ “ “	1434	18		
30	“ “ 3360 “ “ “ “ “ at 70 “ “ “	2281	30		
70	“ “ 7840 “ “ “ “ “ at 75 “ “ “	5702	75		
30	“ “ 3360 “ “ “ “ “ at 77 “ “ “	2509	43	33600	83
				189457	29
	CHARGES.				
	Duty on 108,900 lbs. white Sugar, at 12 cts. per lb.	13068	00		
	“ “ 141,876 “ brown “ at 10 “ “ “	14187	60		
	“ “ 54,538 “ Coffee, at 21 “ “ “	11462	98		
	Brokerage, $\frac{1}{3}$ per cent.	631	52		
	Storage,	264	00		
	Porterage,	300	00		
	Commissions, 2 per cent. on gross sales,	3789	12	43704	22
	- - - - - - - - -			145754	07

Havre, March 10, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

DISBURSEMENTS AND PORT CHARGES.

Paid on the ship Henry, Charles Williams, Master, at Havre de Grace.

Port Charges.				
Cash paid Pilotage inward and outward,	f.315	00		
“ “ Quarantine charges,	200	00		
“ “ Health visit,	150	00		
“ “ Guards,	210	00		
“ “ Entering and clearing,	317	00		
“ “ Light fees,	70	55		
“ “ Custom-House interpreter,	50	25		
Whole amount of Port Charges,			1312	80
Disbursements.				
Cash paid for 346 lbs. of Cordage,	183	00		
“ “ 1 bolt of Canvass,	90	00		
“ “ Ship-chandler's bill,	614	50		
“ “ Filling water-casks,	50	00		
“ “ Fresh provisions,	116	50		
“ “ 10 galls. Brandy,	50	00		
“ “ Qr. cask Bordeaux Wine,	80	00		
“ “ 2 doz. Fowls,	24	00		
“ “ Blacksmith's bill,	84	20		
“ “ Carpenter's bill,	107	50		
“ “ Painter's bill,	210	30		
“ “ Consul's fees,	85	00		
			1695	00
Advances.				
Cash advanced Wm. Childs,	75	00		
“ “ H. Shaw,	60	00		
“ “ S. Peters,	53	50		
“ “ O. Neal,	67	30		
Whole amount advanced crew,			255	80
			3263	60

HAVRE, March 10, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

INVOICE OF MERCHANDISE

Shipped on board the ship Henry, Charles Williams, Master, now in the port of Havre, and bound to Pernambuco, Brazils, on account and risk of Wm. Shaw, a native citizen of the United States, and resident of Boston, and consigned to said Master, for sales and returns, viz.

100	Casks red Wine, 58 galls. each, at f.40 per cask,	4000	00		
100	" " " 60 " " at 43 " "	4300	00		
100	Pipes sup'r " 120 " " at 100 per pipe,	10000	00		
210	Bbls. " " 18 " " at 23 per bbl.	4830	00		
654	Boxes old red " 1 doz. " at 8 per box,	5232	00		
210	" Muscat " 1 " " at 9 " "	1890	00		
410	" Champagne 1 " " at 12 " "	4920	00		
	Duty on 200 casks red Wine, at 2,40 per cask,	480	00		
	" on 100 pipes superior red, at 5,14 per pipe,	514	00		
	" on 210 bbls. " " at 1,35 per bbl.	283	50		
	" on 654 boxes old red, at 70 per box,	457	80		
	" on 210 " Muscat, at 80 " "	168	00		
	" on 410 " Champagne, at 1,15 " "	471	50		
	Porterage,	647	37		
	Labor, &c.	312	16	38506	33
300	Boxes Anchovies, 12 canisters each, at f.12 per box,	3600	00		
	Export duty, 60 cts. per box,	180	00		
	Porterage,	40	00	3820	00
100	Pipes 4th proof Cognac Brandy, 120 galls. each, at f.185 per pipe,	18500	00		
	Export duty,	730	00		
	Porterage,	50	00	19280	00
30	Boxes Hats, 2 doz. each, is 720, at f.13 per ps.	9360	00		
	Export duty,	432	00		
	Porterage,	20	00	9812	00
100	Boxes Olive Oil, 1 doz. each, at f.12 per box,	1200	00		
30	Casks " " 160 galls. each, at 1.10 per gal.	5280	00		
	Export duty on 100 boxes,	120	00		
	" " " 30 casks,	960	00		
	Porterage and labor,	70	00	7630	00
200	Boxes pickled Olives, 12 bottles each, at f.8.50 per box,	1700	00		
200	" " Capers, " " " at 9.0 " "	1800	00		
	Export duty,	240	00		
	Porterage,	60	00		
	Labor,	30	00	3830	00
				82878	33

HAVRE DE GRACE, March 10, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

In this, and the preceding accounts at Havre, 100 centimes are supposed equal to one franc, and the franc 18¾ cents.

SETTLEMENT OF THE VOYAGE FROM HAVANA TO HAVRE DE GRACE.

Dr. William Shaw, owner of the ship Henry, in Account Current with Charles Williams. **Cr.**

To amount of Invoice,	82878	33	By net sales of cargo, as per account,	145754	07
" Disbursements and Port Charges, as per bill,	3263	60			
" Cash in specie dolls. remitted per Rubicon,					
From Havre, $10,953.72\frac{1}{2}$					
Premium, $223.54\frac{1}{2}$					
\$11,177.27 equal to	59612	14			
	145754	07		145754	07
			Havre de Grace, March 10, 1829.		
			Errors and omissions excepted.		
			CHARLES WILLIAMS.		

SALES OF THE THIRD CARGO.

Sales and net proceeds of cargo per ship Henry, Charles Williams, Master, at Pernambuco.

	To Jose Montaro Robello.				
200	Casks red Wine, 58 to 60 galls. at R.12 per gall.	R.2400	000		
100	Pipes supe'r red Wine, 160 " at 40 " "	4000	000		
210	Bbls. old " " " 18 " at 8 " "	1680	000		
654	Boxes old red, 1 doz. each, at 3 " box,	1962	000		
210	" Muscat, " " " at 2500 " "	525	000		
410	" Champaign, " " at 6500 " "	2655	000	13232	000
	To Sr. Ben Costa.				
300	Boxes of Anchovies, at 5,200 " "	1560	000		
20	Pipes of Brandy, at 60,200 " pipe,	1204	000		
15	Boxes of Hats, 360, at 3,400 " ps.	1224	000		
100	" of Olive Oil, at 3,100 " box,	310	000	4298	000
	To Louis Manuel Roderigo.				
25	Casks of Olive Oil, 160 is 4000 galls. at 800 rs. pr. gal.	3200	000		
200	Boxes of Olives, at 2,500 per box,	500	000		
200	" of Capers, at 3,000 " "	600	000	4300	000
	To Sr. Jaŏ Florencia.				
30	Pipes of Brandy, at 54,200 per pipe,	1626	000		
5	Casks of Olive Oil, 160, is 800 galls. at 750 rs. pr. gal.	600	000		
2	Cases of Hats, containing 48, at 3,200 per ps.	153	600	2379	600
	To Sr. Mark Lino.				
50	Pipes of Brandy, at 50,300 per pipe.	2515	000		
13	Boxes of Hats, 312, at 2,100 per ps.	655	200	3170	200
	Amount carried over.			27379	800

SALES OF THE THIRD CARGO.

[CONTINUED.]

Amount brought over.		R	27379	800
CHARGES.				
Duty on 200 casks of red Wine,	220	000		
“ on 100 pipes superior “	325	000		
“ on 210 bbls. “ “	201	600		
“ on 654 old red “	294	300		
“ on 210 boxes Muscat “	71	400		
“ on 410 boxes Champaign,	496	100		
“ on 300 boxes Anchovies,	102	000		
“ on 720 Hats,	223	200		
“ on 100 boxes Olive Oil,	25	000		
“ on 200 boxes Capers,	45	000		
“ on 100 pipes Brandy,	525	000		
“ on 30 casks Olive Oil,	960	000		
Porterage,	54	360		
Storage,	27	030		
Commissions and guarantee, 5 per cent.	1369	020	4939	010
Net sales,			22440	790

Pernambuco, June 3, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

DISBURSEMENTS AND PORT CHARGES,

Paid on the ship Henry, Charles Williams, Master, at Pernambuco.

Port Charges.				
Cash paid health visit,	R.17	200		
“ “ guards on board,	46	310		
“ “ manifesting ship's stores,	2	750		
“ “ Guardamore's visit,	10	400		
“ “ conducting guard,	2	350		
“ “ anchorage and tonnage duty,	164	376		
“ “ entering and clearing,	86	410		
“ “ fort fees,	5	600		
“ “ Secretary's fees,	4	240		
Whole amount of Port Charges,			339	636
Disbursements.				
Cash paid for fresh provisions,	25	300		
“ “ 250 lbs. of cordage,	24	640		
“ “ blacksmith's bill,	5	180		
“ “ carpenter's bill,	10	510		
“ “ ship-chandler's bill,	102	310		
“ “ fire-wood,	4	500		
“ “ filling water-casks,	5	300		
“ “ vegetables,	2	500		
“ “ 4 arrobes of coffee,	5	700		
“ “ 4 lbs. of tea,	4	200		
“ “ 4 small pigs,	5	300		
			195	440
Advances.				
Cash advanced Wm. Childs,	8	750		
“ “ H. Shaw,	9	375		
“ “ S. Peters,	10	436		
“ “ O. Neal,	12	517		
“ “ W. Merrill,	7	530		
“ “ H. Newman,	10	415		
“ “ P. Morton,	12	160		
“ “ G. Green,	8	760		
“ “ Wm. Shea,	7	810		
Whole amount advanced crew,			87	753
Amount of Disbursements and Port Charges,			622	829

Pernambuco, June 3, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

INVOICE OF MERCHANDISE

Shipped on board the ship Henry, Charles Williams, Master, now in the harbor of Pernambuco, and bound to Boston, on account and risk of William Shaw, a native citizen of the United States, and resident of Boston, and to him consigned, viz.

3100 dry salted Hides.				
900 weigh. 27640 lbs. at 90 rs. per lb. R.	2487	600		
500 “ 17500 “ “ 95 “ “ “	1662	500		
400 “ 11200 “ “ 80 “ “ “	896	000		
300 “ 8700 “ “ 85 “ “ “	739	500		
700 “ 23500 “ “ 105 “ “ “	2467	500		
200 “ 6400 “ “ 100 “ “ “	640	000		
100 “ 3600 “ “ 110 “ “ “	396	000	9289	100
1000 Refuse.				
250 “ 5000 “ “ 45 “ “ “	225	000		
340 “ 7820 “ “ 50 “ “ “	391	000		
180 “ 4500 “ “ 60 “ “ “	270	000		
110 “ 2092 “ “ 40 “ “ “	83	680		
120 “ 3120 “ “ 65 “ “ “	202	800	1172	480
Porterage and beating,	82	500		
Embarking fees,	17	560		
Duty, 70 rs. each,	287	000	387	060
			10848	640
65 boxes of Sugar.				
20 weigh. net 1364 arrobes, at 1,850 per arr.	2523	400		
20 “ “ 1294 “ “ 1,780 “ “	2303	320		
35 “ “ 1954 “ “ 1,930 “ “	3771	220	8597	940
Export duty,	637	318		
Labor and embarking,	110	397		
Porterage,	16	080	763	795
27500 Rio Grande Horns, at 40 mill per M.	1100	000		
Export duty,	16	400		
Porterage,	7	200	1123	600
			21333	975
Commissions, 2½ per cent,			533	349
			21867	324

Pernambuco, June 3, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

The arrobe is 32 lbs.

FINAL SETTLEMENT OF THE VOYAGE.

Dr. William Shaw, Esq., owner of the ship Henry, in Account Current with Charles Williams. Cr.

To amount of Invoice, R.	21867	324	By net sales of cargo, as per account, R.	22440	790
" disbursements and port charges, as per bill,	622	829	" my draft on you in favor of H. Foster,		
			$61,70, equal to	49	363
	22490	153		22490	153
			Pernambuco, June 3, 1829.		
			Errors and omissions excepted.		
			CHARLES WILLIAMS.		

REMARKS.

Having closed the voyage at Pernambuco, we will now take it up from its commencement, and show what papers are necessary to present the owners on the arrival of the ship in Boston; and first, the Invoice, Bill of Disbursements, Account of Sales, and Account Current, at Havana. 2d. Invoice, Bill of Disbursements, Account of Sales, and Account Current at Havre de Grace. 3d. Invoice, Bill of Disbursements, Account of Sales, and Account Current at Pernambuco. These include the whole set of Accounts for the voyage. Annexed is a general Account Current of the voyage, designed to show how your Account Current should be arranged, provided you do not close your Accounts at each port. It exhibits at one view the whole transactions of the voyage. The most correct way, however, is to close your Accounts at each port, as per preceding examples, and forward a copy of them to the owners, which can be easily done, on a sheet of letter paper. (This should not be neglected.) You should also be particular to forward a certificate of landing your debenture goods.

GENERAL ACCOUNT CURRENT.

Dr. Mr. William Shaw, owner of the ship Henry, in Account Current with Charles Williams. Cr.

To amount of Invoice at Havana, $	21116	57½	By net sales of cargo at Havana, $	24013	87½
" disbursements and port charges at do.	1037	68½			
" specie remitted per ship Clio from do.	1859	61½			
To am't of Invoice of cargo at Havre, f.82878,33	15539	68½	By net sales of cargo at Havre, f.145754,07, eq. to	27328	88
" disbursements and port charges at do. 3263,60	611	92½			
" cash in specie remitted per Rubicon,	10953	72½			
" premium on do.	223	54½			
To amount of Invoice of cargo at Pernambuco, R.21867,324, equal to	27334	15	By net sales of cargo at Pernambuco, R22440,790	28050	98¾
" disbursements and port charges at do. R.622,829, equal to	778	53¾	" my draft in favor of H. Foster,	61	70
$	79455	44¼		79455	44¼

Pernambuco, June 3, 1829.

Errors and omissions excepted.

CHARLES WILLIAMS.

REMARKS.

In visiting two or more ports the same voyage, if the currencies are different, and your accounts have not been closed at each port, it will be necessary to reduce all to one currency before the Account Current with your owners is made up. The franc, in this example, is supposed equal to 18¾ cents, and the mill rea to $1,25.

FOURTH VOYAGE—INVOICE OUTWARD.

Invoice of Merchandise shipped on board the brig William, Charles Owen, Master, now in the harbor of Portland, and bound to Havana, on account and risk of John Shelden, a native citizen of the United States, and resident of Portland, and consigned to said Master for sales and returns, viz.

190000	Feet of white pine Boards, at $11 per M.		2090	00
250	Shooks and Heading, at 90 cts. per shook,		225	00
40	Bbls. of Potatoes, at $1,25 per bbl.		50	00
20000	Hoops, at $20 per M.		400	00
100	Kegs of hog's Lard, weigh. net 2000 lbs. at 9 cts. per lb.		180	00
1000	Bunches of Onions, at 4 cts. per bunch,		40	00
150	Bbls. of Mackerel, at $3,50 per bbl.		525	00
50	Boxes of Fish, at $2 per box,		100	00
			3610	00
	CHARGES.			
	Porterage,	$12,37		
	Cooperage,	4,32	16	69
			3626	69

Portland, April 16, 1830.

Errors and omissions excepted.

JOHN SHELDEN.

ACCOUNT OF SALES OF CARGO AT HAVANA.

Sales and net proceeds of cargo per brig William, at Havana, Chas. Owen, Master.

50000	Feet of white pine Boards, at $25½ per M.	1275	0		
20000	" of " " " at 26 " "	520	0		
30000	" of " " " at 27 " "	810	0		
40000	" of " " " at 26½ " "	1060	0		
50000	" of " " " at 24 " "	1200	0		
190000	. . . .			4865	0
140	Shooks and Heading, at $1¼ per shook,	175	0		
80	" " " at 1½ " "	120	0		
30	" " " at 1¾ " "	52	4		
250	. . . .			347	4
40	Bbls. Potatoes, at $2½ per bbl.			100	0
20000	Hoops, at 27,00 per M.			540	0
100	Kegs, containing 1740 lbs. Lard, at 1 rl. per lb.			217	4
1000	Bunches of Onions, at 0,$\frac{8}{100}$ per bunch,			80	0
150	Bbls. No. 3 Mackerel, at 4,00 per bbl.			600	0
50	Boxes of Codfish, at 3,4 per box,			175	0
				6925	0
	CHARGES.				
	Duties on custom-house valuations.				
	Import duty on 190,000 feet of Lumber, valued at $14, at 24 per cent.	638	$\frac{40}{100}$		
	250 Shooks, valued at 6 rs. is $187,50, at 24 per ct.	45	00		
	40 bbls. of Potatoes, valued at $3, is 120, at 24 per ct.	28	80		
	20,000 Hoops, valued at $20, is 400, at 24 per cent.	96	00		
	1740 lbs. of Lard, valued at $12, is 208,80, at 24 per cent.	50	11		
	1000 bunches of Onions, valued at $5 per 100 bunches, is 50, at 24 per cent.	12	00		
	150 bbls. No. 3 Mackerel, valued at $3,4, is 525, at 24 per cent.	126	00		
	50 boxes of Codfish, valued at $1,4, is 75, at 24 pr. ct.	18	00		
		1014	31		
	Balanza 1 per cent.	10	14		
	Commissions, 5 per cent. on gross sales,	346	25	1370	6
	Net proceeds,			5554	2

Havana, May 30, 1830.
Errors and omissions excepted.
CHARLES OWEN.

REMARKS.

In ascertaining the duties on a cargo at Havana, each article is valued by the Government; the duties are then calculated on this valuation at a certain per cent. If the duty on each article in a cargo is the same, suppose 24 per cent., you may ascertain the Government value of the whole cargo, and calculate the duties on the whole amount, without the trouble of calculating the duty on each respective article.

DISBURSEMENTS AND PORT CHARGES

Paid on the brig William, by Charles Owen, Master, at Havana.

Port Charges.				
Cash paid Harbor-master's fee,	3	0		
" " Interpreter's fee,	2	0		
" " translating manifest, &c.	5	0		
" " stamp papers,		4		
" " tonnage duty,	528	6		
" " entering and clearing,	65	0		
" " Moro-pass and light fees,	11	4		
" " Marine interpreter,	2	0		
" " Consul's fees,	2	0		
Whole amount of Port Charges,			619	6
Disbursements.				
Cash paid for one bolt of canvass,	18	4		
" " ship-chandler's bill,	24	3		
" " fresh provisions,	10	4		
" " blacksmith's bill,	3	5		
			57	0
Advances.				
Cash advanced H. Porter,	2	5		
" " P. Pike,	3	1		
" " R. Henshaw,	4	3		
" " D. Patterson,	6	2		
HAVANA, May 30, 1830.			16	3
Errors and omissions excepted.			693	1
CHARLES OWEN.				

INVOICE HOMEWARD.

Invoice of Molasses shipped on board the brig William, Charles Owen, Master, now in the harbor of Havana, and bound to Portland, on account and risk of John Shelden, a native citizen of the United States, and resident of Portland, and to him consigned.

	190 casks, and 40 tierces of Molasses,				
190	Casks, containing 21066 gallons,				
40	Tierces, " 2000 "				
	23066 galls. or $4193\frac{9}{11}$ kegs, at 2 rs.			$ 1048	3¾
230	Casks and tierces, at 5½ cts. per gallon,			1268	5
				2317	0¾
	CHARGES.				
	Cooperage, 3 rs. each,	86	2		
	Commissions, 2½ per cent.	57	7½	144	1½
				$ 2461	2¼

Havana, May 30, 1830.

Errors and omissions excepted.

CHARLES OWEN.

FINAL SETTLEMENT OF THE VOYAGE.

Dr. Mr. John Shelden, owner of the brig William, in Account Current with Charles Owen. Cr.

To amount of Invoice,	2461	2¼	By net sales of cargo, as per account,	5554	2
" disbursements and port charges, as per bill,	693	1			
" cash in specie dollars,	2220	7¾			
" my commissions, 2½ per ct. on net sales,	138	7			
" balance,	40	0			
	$5554	2		5554	2
			Havana, May 30, 1830.		
			Errors and omissions excepted.		
			CHARLES OWEN.		

REMARKS.

After closing your voyage at any port, if you have employed a merchant to assist you in your business, you should, when at leisure, make up a set of papers for your owners, from your Consignees. Your Bill of Disbursements should contain all the charges that are in his, together with all charges you have against the ship or owners; (the voyage should be closed as per preceding Account Current;) and, in this case, all the papers which you have received from your Consignee, will be considered as vouchers. If you wish to be considered a correct accountant, this must not be neglected. Many are in the habit of handing to their merchant, on their return, the Consignee's account of Sales, Invoice, Bill of Disbursements, and Account Current simply, with an Account Current of their own; this Account Current must necessarily contain the charges on the ship, which properly belong to the Bill of Disbursements, which should not be done.

I will again observe, that it is the duty of the Master to make out and present to his owner the following papers, viz. An Account of Sales, Invoice, Bill of Disbursements, and Account Current, in all cases, when a cargo has been sold, and another purchased; and if these be correctly done, nothing will appear in the Account Current but the amount at the foot of each account. You may invoice your specie, or charge it on the Dr. side of the Account Current with your owners.

It will be perceived that the preceding Account Current is closed *To Balance* $40; hence, it is evident, that the Captain, in this case, is a debtor to the voyage, equal to the difference between the Dr. and Cr. sides.

Had the Account been closed *By Balance* $40, it would show that the owner or ship was indebted to the Captain, as the Dr. side would exceed the net sales. It is therefore to be presumed, that the Captain advanced sufficient money to satisfy all claims against his ship. The owner, in this case, becomes a debtor to the Captain equal to this amount.

In making a charge on the Debtor side of the Account Current, always write *To;* in giving Credit, always write *By.* If your commissions are to be received abroad, on the net or gross sales, you may charge the commissions at the foot of the Account of Sales, or on the Dr. side of the Account Current with your owners.

Having closed our last voyage, we will now arrange a set of Accounts for a freighting voyage.

Let us suppose a ship sails from Portland for New Orleans, the Captain having liberty to consign himself to any merchant he pleases, and also liberty to draw on his owner for an amount sufficient to cover all charges.

Having obtained a freight as per annexed list, he is required to draw on his owner for the amount of Disbursements, as per Bill.

FORM OF THE DRAFT.

New Orleans, Jan. 4, 1830.

Exchange for $1152.53.

At thirty days' sight of this my first of Exchange, (second and third of the same tenor and date, not paid,) pay to Mr. Wm. Wyer, or Order, Eleven Hundred and Fifty-two dollars, Fifty-three cents, with or without further advice from Your humble servant,

CHARLES SAUNDERSON.

FREIGHT LIST

Of the cargo of the ship Padang, Charles Saunderson, Master, bound from New Orleans to Havre.

Marks.	Numbers.	Shippers.	Consignees.	Quantities and Denominations.	Weight.	Rate.	Freight.		Primage.		Amount.	
F A	1 to 229	E. De Laney,	S. De Laney,	385 bales of Cotton, weighing	157,918	at 1½c.	$2368	77	118	43	$2487	
A F	1 to 156	do.	G. Dupasour,	113 do. do. do.	41,679		625	18	31	25	656	43
M	1 to 113	C. Charbonette,	C. Nathan,	47 do. do. do.	19,936		299	4	14	96	314	00
N	1 to 47	do.	G. Smith,	18 do. do. do.	6,874		103	11	5	15	108	26
J L	1 to 18	do.	do.									
H A	1 to 46	do.									1137	59
G	1 to 49	do.	Paul Green,	183 do. do. do.	72,228		1083	42	54	17		
V	1 to 88	do.										
A M N	1	do.		one barrel Sugar,			2			10	2	10
T M	107 to 205	O. Morot,	Delvisert Lagory,	99 do. do. do.	40,197		602	95	30	14	633	9
L D	1 to 73	J. Gardner,	do.	73 do. do. do.	28,205		423	7	21	15	444	22
O	1 to 20	P. Barnard,	do.	20 do. do. do.	8,155		122	32	6	11	128	43
H W	1 to 38	J. Boardman,	J. St. Avia,	38 do. do. do.	15,802		237	3	11	85	248	88
L Q	1 to 2	J. Gardner,	do.	2 seroons Cochineal,		a $1.50	3	00		15	3	15
			do.	1 barrel Sugar,			2	0		10	2	10
				976 bales Cotton, and sundries.	390,994		$5,871	89	293	56	6,165	45
							6,165	45	at F. 5	25	F.32,368	61

New Orleans, Jan. 4, 1830.

CHARLES SAUNDERSON.

DISBURSEMENTS AND PORT CHARGES,

Paid on the ship Padang, Charles Saunderson, Master, at New Orleans.

Port Charges.				
Cash paid pilotage inward and outward, viz.				
Bar-pilot in and out, $56, river do. $35,	91	00		
Tonnage duty,	27	56		
Entering and clearing,	12	85		
Levee and Harbor-master's fees,	53	85		
French Consul, for bill of health,	6	00		
Whole amount of Port Charges,			191	26
Disbursements.				
Cash paid labor,	86	54		
“ “ fresh provisions and vegetables,	8	47		
“ “ sail-maker's bill,	12	96		
“ “ caulker's bill,	7	52		
“ “ carpenter's bill,	9	54		
“ “ 2 galls. lamp oil,	2	18		
“ “ 100 lbs. sugar,	7	16		
“ “ 100 lbs. coffee,	12	56		
Sundry charges paid my consignee, as per bill,	794	58		
			941	51
Advances.				
Cash advanced Wm. Tuttle,	3	50		
“ “ G. Oliver,	4	76		
“ “ H. Grant,	6	12½		
“ “ J. Ranson,	5	37½		
Whole amount advanced crew,			19	76
			1152	53

New Orleans, Jan. 4, 1830.

Errors and omissions excepted.

CHARLES SAUNDERSON.

DISBURSEMENTS AND PORT CHARGES,

Paid on the ship Padang, Charles Saunderson, Master, at Havre de Grace.

Port Charges.				
Cash paid pilotage,	f.326	19		
" " quarantine charges,	200	40		
" " health visit,	150	50		
" " guards,	250	76		
" " custom-house entering and clearing,	316	72		
" " light money,	70	46		
" " tonnage duty,	957	36		
" " custom-house interpreter,	50	37	2322	76
Disbursements.				
Cash paid for 397 lbs. cordage,	183	16		
" " for 2 bolts of canvass,	180	00		
" " ship-chandler's bill,	546	30		
" " filling water-casks,	47	36		
" " fresh provisions,	118	50		
" " 10 galls. brandy,	53	90		
" " 1 doz. fowls,	15	00		
" " painter's bill,	164	41		
" " Consul's fees,	85	50	1394	13
Advances.				
Cash advanced Wm. Crookshanks,	70	76		
" " J. Horn,	79	40		
" " L. Oliver,	59	50		
" " H. Grant,	92	18		
" " J. Ranson,	107	12	408	96
			4125	85

Havre, Feb. 28, 1830.

Errors and omissions excepted.

CHARLES SAUNDERSON.

REMARKS.

In this Account I have neglected several charges, and carried them to the Dr. side of the Account Current, which can be done when any charges have been omitted in this Bill.

Dr. John Henderson, owner of the ship Padang, in Account Current with Charles Saunderson. Cr.

To Disbursements & Port Charges at New Orleans, as per bill,		1152	53	By amount of freight from New Orleans to Havre,	f.32368,61		
To Disbursements & Port Charges at Havre de Grace,	f.4125,85			By sales of 4 bbls. of Beef, at f.80 per bbl.	320,00		
To commissions paid G. Green on amount of freight,	809,21			By sales of 6 bbls. of bread, at f.30 per bbl.	180,00		
To sundry charges as per G. Green's bill,	510,76			By sales of 2 bbls. of Pork, at f.100 per bbl.	200,00		
To 40 tons of stone ballast, not charged in Disbursements,	800,00				33068,61 eq.to	$6298	78
To 1 bbl. of Tar, " " "	30,00			By my draft in favor of Wm. Wyer, at 30 days' sight,		1152	53
To Harbor-master's fees, " " "	100,00						
	6375,82 eq.to	1214	44				
To cash in specie dollars,	4984,69						
Premium, 2 per cent.	99,65	5084	34				
		7451	31			7451	31

Havre, Feb. 28, 1830.

Errors and omissions excepted.

CHARLES SAUNDERSON.

REMARKS.

In this Account Current, I have entered several charges which properly belong to the Bill of Disbursements; which can be done, if any charges have been omitted in that Bill; and as several articles were sold, the owner must be credited for the sales.

TO FIND THE SOLID CONTENTS OF PACKAGES.

A piece of timber, one foot square, contains 1728 square inches; which is ascertained by multiplying the length, breadth, and depth in inches, into each other; thus 12 inches multiplied by 12, is 144, this multiplied again by 12, is 1728; so that it is plain, if the length, breadth, and depth of any box, package, or any other compact article, be taken and reduced into inches, and multiplied into each other, and the last product be divided by 1728, it will give the quantity of solid feet contained in it; but if there be any remainder from this division, divide that by 144, which will give the number of odd inches, counting 12 to a solid foot.

40 solid feet make one ton of measurement goods.

EXAMPLES.

Suppose a package be in length 5 feet, 10 inches; breadth, 4 feet, 6 inches; depth, 2 feet, 6 inches; what are its solid contents?

Length 5 ft. 10 in. are 70 inches.
Breadth 4 ft. 6 in. " 54 "

280
350

3780
Depth 2 ft. 6 in. are 30

1728)113400(65 ft. 7½ inch.
10368

9720
8640

144)1080(7
1008

72 equal to ½ inch.

144

If a package be in length 4 feet, 2 inches; breadth, 2 feet, 6 inches; depth, 3 feet, 8 inches; what are its solid contents?

4 feet, 2 in. are 50 inches.
2 feet, 6 in. " 30 "

1500
3 feet, 8 in. " 44

6000
6000

ft. in.
1728)66000(38,2⅓ solid contents.
5184

14160
13824

144)336(2
288

48 equal to ⅓ of an inch.

144

If a package be in length 3 ft. 9 in.; depth 1 ft. 5 inches; breadth 2 ft. 7 inches; what are its solid contents?

3 ft. 9 in. are 45 inches.
1 ft. 5 in. " 17 "
315
45
765
2 ft. 7 in. 31
765
2295
ft. in.
1728)23715(13.8$\frac{7}{10}$ nearly, solid con.
1728
6435
5184
144)1251(8
1152
99
144

If a package be in length 6 ft. 7 in.; breadth 3 ft. 3 in.; depth 2 ft. 5 in. what are its solid contents?

6 ft. 7 in. are 79 inches.
3 ft. 3 in. " 39 "
711
237
3081
2 ft. 5 in. 29
27729
6162
ft. in.
1728)89349(51. 8$\frac{5}{10}$ nearly.
8640
2949
1728
144)1221(8
1152
69
144

As all the remainders in the preceding calculations are the fractions of an inch, I shall here introduce a rule for reducing a simple fraction to its lowest term.

Rule.—Find a common measure, by dividing the lower term by the upper, and that divisor by the remainder; continue until nothing remains; the last divisor is the common measure: then divide both parts of the fraction by the common measure, the quotient or answer expresses the fraction required.

Note.—If the common measure happens to be 1, the fraction is already in its lowest term, and when a fraction hath cyphers at the right hand, it may be abbreviated (or shortened) by cutting them off, thus $\frac{6|0}{7|0}$, or $\frac{6}{7}$.

Example 1.

Reduce the remainder in the first example to its lowest term, which is $\frac{72}{144}$.

Common measure, 72)144(2
144
000

The common measure being 72, it is evident that $\frac{72}{144}$ is one half of an inch, or $\frac{5}{10}$.

Example 2.

Reduce the remainder in the 2d example to its lowest term, which is $\frac{48}{144}$.

Common measure, 48)144(3
144

The common measure being 48, is one third of an inch, or $\frac{3}{10}$ nearly.

EXAMPLE 3.

Reduce the remainder in the 3d example, to its lowest term, which is $\frac{99}{144}$.

99)144(1
99
—
45)99(2
90
—
com.mea.9)45(5
45
—

9)$\frac{99}{144}$($\frac{11}{16}$ of an inch.

EXAMPLE 4.

Reduce the remainder in the 4th example to its lowest term, which is $\frac{69}{144}$.

69)144(2
138
—
6)69(11
66
—
Com. measure, 3)6(2
6
–

3)$\frac{69}{144}$($\frac{23}{48}$ of an in.

In the third example, we have the fraction reduced to its lowest term, as no number will divide 11 without a remainder. The fourth example is also in its lowest term, as 23 cannot be divided without a remainder. Now, as it is my intention to take up the examples from the commencement, and ascertain the number of tons in the whole, it will be necessary for us to know how many tenths of inches are contained in all the fractions together. In order to do this, you have only to annex a cypher to the numerator, and divide by the denominator, which will give the same result as annexing a cypher to the remainder in finding the solid contents, and dividing by the last divisor, viz. 144.

In the third example we have from $\frac{99}{144}$ the lowest fraction $\frac{11}{16}$.

Annex a cypher to the numerator 11, and divide by the denominator 16)110(6
96
—
14

And we have 6 tenths and $\frac{14}{16}$ of another tenth, which is $\frac{7}{10}$ nearly.

Or thus, annex a cypher to the remainder in the 3d example, 99, and divide by 144)990(6
864
—
126

And we have 6 tenths and $\frac{126}{144}$ of another tenth, which is $\frac{7}{10}$ nearly.

In the 4th example we have from $\frac{69}{144}$ the lowest fraction, $\frac{23}{48}$.

Numerator 23
Denominator 48)230(4
192
—
38

We have 4 tenths of an inch, and $\frac{38}{48}$ of another tenth, which is $\frac{5}{10}$ nearly.

Or thus, with the remainder in the 4th example:
Remainder is 69
Last Divisor 144)690(4
576
—
114

We have 4 tenths and $\frac{114}{144}$, which is $\frac{5}{10}$ nearly.

The remainder in the first example, is half an inch, or five tenths, because 72 multiplied by 2 is 144, equal to the divisor. The remainder, in the second example, is one third of an inch, or $\frac{3}{10}$ nearly, or exactly $\frac{10}{30}$, because 48 multiplied by 3 is 144, the divisor.

We shall now take the sum of the solid contents of the four packages, and ascertain what the freight amounts to at $30 per ton, 40 solid feet being equal to one ton.

No. 1,	is	65 ft.	7 in.	5 tenths.
" 2,	"	38 "	2 "	3 "
" 3,	"	13 "	8 "	7 "
" 4,	"	51 "	8 "	5 "
Solid feet,		169 "	3 "	0 "

By Proportion.—Multiply the 2d by the 3d term, and divide by the first, cut off the two right hand figures of the product or answer, and you will have the amount in dollars and cents, viz. $126.75 cents for 169 feet.

If 40 feet pays 3000 cents, what will 169 feet pay?

3000
40)507000(126.75
40
107
80
270
240
300
280
200
200

TO FIND WHAT PROPORTION THREE SOLID INCHES PAY.

Divide the price of one ton by 40, and you will have the freight per foot.

Freight for 40 feet is $30.00.
Divide by 40)30.00
75 cts. per foot.

Multiply the 3 inches by 6¼ and add it to 126.75, and you will have the whole amount of freight.

3
6¼
18¾
126.75
$126.93¾ whole amount freight.

Divide again the price per foot by 12, and you will have the freight per inch.

Freight for 1 foot is 75 cents.
Divide by 12)75
$6\frac{3}{12}$, or 6¼ cts. pr. inch.

Or you may proceed thus: Reduce the feet and inches to inches, by multiplying the feet by 12, viz.

169 ft. 3 in.
12
2031
Multiply this by price pr. in. 6¼
12186
507.3
$126.93¾

TO FIND THE SOLID CONTENTS OF CASKS.

Find the mean diameter of the cask, by taking the mean of the bilge and head diameter. Then multiply the mean diameter in inches, by the length of the cask in inches. Multiply this product again by the mean diameter. Deduct one fifth of the sum so found, for the roundness of the cask ; and reduce the remainder to feet and inches, by the rule for the measurement of packages, as in the following examples.

Suppose a package be in length 5 ft. 10 in ; breadth, 4 ft. 6 in. ; depth, 2 ft. 6 in. ; what are its solid contents ?

2 ft. 4 in. = 28 head diameter.
2 ft. 8 in. = 32 bung "
2)60
30 mean diameter.
3 ft. 10 in. 46 length.
180
120
1380 product to be multiplied
30 again by mean diameter.
5)41400
8280 deduct $\frac{1}{5}$ for roundness.
1728)33120(19 ft. 2 in. solid contents.
1728
15840
15552
144)288(2
288

If a cask is in length 4 ft. 2 in. ; its head diameter 2 ft. 6 in.; and bung diam. 3 ft., what are its solid contents ?

Head diameter 2 ft. 6 in. are 30 inches.
Bung " 3 ft. " 36 "
2)66
Mean diameter, 33
Len. 4 ft. 2 in. are 50 inches.
33 mean diameter.
150
150
1650 this product to be
33 multiplied again by mean diameter.
4950
4950
5)54450
10890 deduct one fifth.
1728)43560(25 ft. 2 in. $\frac{5}{10}$.
3456
9000
8640
144)360(2
288
144)720(.5
720

TO FIND THE TONNAGE OF A VESSEL BY THE UNITED STATES MEASUREMENT.

If the vessel be double-decked, take the length thereof from the fore part of the main stem to the after part of the stern post, above the upper deck ; the breadth thereof at the broadest part above the main wales, half of which breadth shall be accounted the depth of such vessel, and then deduct from the length three fifths of the breadth ; multiply the remainder by the breadth, and the product by the depth, and divide this last product by 95; the quotient whereof shall be deemed the true contents or tonnage of such ship or vessel. If such ship or vessel be single-decked, take the length and breadth as above directed; deduct from the said length three fifths of the breadth, and take the depth from the under side of the deck plank to the ceiling in the hold; then multiply and divide as aforesaid, and the quotient (or answer) shall be deemed the tonnage.

Preparations

To reduce a vulgar to a decimal fraction.

Rule.—Annex cyphers to the numerator of the fraction, and divide it by the denominator. Thus, 6 ft. 3 in. $= 6\frac{3}{12}$ ft. Now, by the above rule, $\frac{3}{12} = 25$; hence, 6 ft. 3 in. $= 6.25$ ft. Again, 8 ft. $8\frac{2}{3}$ in. are thus reduced. $8\frac{2}{3}$ in. $= \frac{26}{3}$, and 1 ft. or 12 in. $= \frac{36}{3}$; hence, $8\frac{2}{3} = \frac{26}{36} = 722$. Therefore, 8 ft. $8\frac{2}{3} = 8.722$ ft. This fraction is incommensurable, and may be carried to any extent whatever by continued division.

× sign of multiplication. — sign of subtraction. ÷ sign of division. = sign of equality; and + sign of addition.

Example 1.

Required the Government tonnage of a single-decked vessel, whose length is 69 ft. 6 in., breadth 22 ft. 6 in., and depth 8 ft. 6 in.

69 ft. 6 in. = 69.5 5)22.5

4.5 $= \frac{1}{5}$ the beam.

22 ft. 6 in. = 22.5 3

8 ft. 6 in. = 8.5 13.5 $= \frac{3}{5}$ the beam. Now, 69.5 — 13.5 = 56 × 22.5 = 1260 × 8.5 = 10710 ÷ 95 $= \frac{10710}{95} = 112\frac{70}{95}$ tons.

The same by Duodecimals.

69.6 length.
13.6 $= \frac{3}{5}$ the beam.

56.0
22.6 = beam.

112
112
6 in. $= \frac{1}{2}$ ft. 28

6 in. $= \frac{1}{2}$ 1260.0
8.6

10080
630

95)10710(112.$\frac{70}{95}$
95

121
95

260
190

70

Example 2.

Required the Government tonnage of a double-decked vessel, whose length is 75 ft. 6 in., breadth 23 ft. 4 in., and depth 11 ft. 8 in. Let us ascertain the tonnage, in this example, without reducing the inches to decimals.

Example 2.—*By Duodecimals.*

5)53.4
4.8
3
14.0 = $\frac{3}{5}$ the breadth.

75.6
14.0
61.6
23.4
194.6
122
20.6
1435.0
11.8
15785.0
956.8
95)16741.0(176.$\frac{21}{95}$
95
724
665
591
570
21

TO FIND THE TONNAGE BY LOGARITHMS.

Example 3.

Required the tonnage of a double-decked vessel, whose length is 100 ft. 4 in., and breadth 26 ft. 7 in.

5)26.7
5.3$\frac{4}{5}$ = $\frac{1}{5}$ the beam.
3
15.10$\frac{2}{5}$ = $\frac{3}{5}$ the beam.

Length,	100. 4		
Length less $\frac{3}{5}$ beam,	84. 4$\frac{3}{5}$	= 84.38	log. 1.92624
Breadth of beam,	26. 7	= 26.58	— 1.42455
$\frac{1}{2}$ the beam,	13. 3$\frac{1}{2}$	= 13.29	— 1.12352
Arith. comp.		95.00	— 8.02228
			2.49659 = 313$\frac{75}{95}$ tons.

As the log. cannot be found to correspond exactly in the tables, proceed as follows. Take out the next less log. and note the number opposite in the left hand column; also the number at the top. Take the next greater log. and the difference between them; then take the difference between the first log. taken from the table and the log. found above, and proportion for the other decimal figure.

Illustration.

Next less,	49651 = 313.7
Next greater,	49665
Difference,	14
Log. found above,	49659
Difference,	8

Proportion.
14 : 10 : : 8
8
14)80(5,
70
10

the fifth figure, which being placed on the right of 313.7, gives 313.75. Observe that the natural number, corresponding to the log., consists of one more place of figures than the index of the logarithm. Thus, if the index is 1, you require 2 places of figures; if 2, 3 places; if 3, 4 places, &c.

Let us determine the tonnage by the preceding Rule.

Length less $\frac{3}{5}$ the beam,	84.38
Beam,	26.58

67504
42190
50628
16876
2242.8204
13.29
201853836
44856408
67284612
22428204
95)29807.083116(313.75
285
130
95
357
285
720
665
558
475
83

Remarks.—If the decimal part of the dividend be brought down, and the division continued, the fraction in the quotient will be decimals; but, in ordinary cases, may be considered parts of the divisor 95, as the difference between $\frac{1}{95}$ and $\frac{1}{100}$ is but $\frac{1}{1900}$; hence the difference between $\frac{75}{95}$ and $\frac{75}{100}$ is $\frac{75}{1900}$, which, in such calculations, is a quantity not worth noticing, unless very great accuracy be required.

In the preceding calculation by logarithms, the arithmetical complement was used to avoid subtraction; this complement is found by subtracting the logarithm from 10 or 10.00000.

Example 4.

What is the government tonnage of a double-decked vessel, whose length is 108 feet, 2 inches, breadth 26 feet, 10 inches?

Beam, 26.10
12

5)322

$64\frac{2}{5}$
3

$12)193\frac{1}{5}$

$\frac{3}{5}$ beam, $16.1\frac{1}{5}$
Length, 108.2

	$92.0\frac{4}{5}$	equal to	92.07 its log.	1.96412
Beam,	26.10		26.83	1.42862
$\frac{1}{2}$ beam,	13.05		13.41	1.12743
				4.52017
			95	1.97772 fixed number.
				2.54245 = $348.\frac{70}{95}$ tons.

Length after $\frac{3}{5}$ the beam is deducted, 92.07
Beam, 26.83

27621
73656
55242
18414

2470.2381
Half beam, 1341

24702381
98809524
74107143
24702381

33125.89(2921

[*Carried over.*

```
Brought over.]    95)33125.89(2921($348.\frac{69}{95}$
                     285
                     ---
                      462
                      380
                      ---
                       825
                       760
                       ---
                        658
                        570
                        ---
                         889
                         855
                         ---
                          34
```

What is the government tonnage of a single-decked vessel, whose length is 69 feet, 6 inches, breadth 22 feet, 6 inches, and depth 8 feet, 6 inches.

	ft.	in.
Length,	69	6
From which deduct three-fifths the breadth,	13	6
	56	0

By Logarithms.

Reduce the inches o decimals.

Length less $\frac{3}{5}$ beam is	56.00	1.74819
Breadth,	22.50	1.35218
Depth,	8.50	0.92942
		4.02979
Divisor 95, its logarithm, subtract		1.97772
		2.05207

2.05207 corresponding to which, in table 26th, (Epitome,) is 112.7, which is 112 tons and $\frac{70}{95}$, nearly.

What Vessels of different classes will carry in proportion to their Measurement.

A full built ship, of 300 tons, will hold 50 per cent. above her tonnage ; that is, she will carry 450 tons measurement goods ; calculating 40 cubic or solid feet, to the ton.

A ship 300 tons, if very sharp built, will not hold more than 300 tons measurement goods. They will hold more in proportion as they are less sharp built.

A ship of 400 tons, full built, will hold 60 per cent. above her tonnage ; but if she be sharp built, she will hold about 40 per cent. on her tonnage of measurement goods.

A ship 500 tons, full built, will hold 75 per cent. above her tonnage.

A ship 650 tons, sharp built, will hold 50 per cent. above her tonnage.

A ship 600 tons, full built, will hold 75 per cent. above her tonnage.

A ship 600 tons, sharp built, will hold 50 per cent. above her tonnage. So that the larger the vessel, the more she will hold above her tonnage, as a ship 1200 tons, full built, will hold from 90 to 100 per cent. on her tonnage, and a ship of 1200 tons, sharp built, may hold from 60 to 70 per cent. above her tonnage ; while a vessel of 200 tons, sharp built, perhaps will not hold equal to her tonnage.

Proportion of the Spars of Merchant Ships.

In the merchant service, it appears that there is no particular rule for sparring a vessel, as respects the difference between the lower and upper yards; some make a difference between the lower, topsail, and topgallant-yards, of ten feet; others of eight, nine, &c. The breadth of beam, however, is generally considered the guide for the mainyard, from which the others are proportioned. The following differences are supposed to be fair proportions.

Length of the Spars.

Mainmast—Equal to two and a half times the ship's beam.
Foremast—Eight-ninths of the mainmast.
Mizenmast—Five-sixths of the mainmast.
Bowsprit—Two-thirds of the mainmast, one-third of which ought to be inboard.
Main-top mast—Three-fifths of the mainmast.
Main-top-gallant mast—Half the main-top mast, exclusive of the pole, which is generally half the length of the top-gallant mast, or a little longer.
Fore-top mast—Three-fifths of the foremast.
Fore-top-gallant mast—Half the length of the fore-top mast, exclusive of the pole, which is half the length of the top-gallant mast.
Mizen-top mast—Three-fifths of the mizen-mast.
Mizen-top-gallant mast—Half the length of the mizen-top mast, and the pole half the length of the top-gallant mast.
Jib-boom—The length of the bowsprit, two-thirds of which length is rigged without the bowsprit cap.
Main-yard—Twice the ship's extreme breadth.
Main-top-sail yard—Two-thirds of the main yard.
Main-top-gallant yard—Two-thirds of the main-top-sail yard.
Fore-yard—Seven-eighths of the main yard.
Fore-top-sail yard—Two-thirds of the fore-yard.
Fore-top-gallant yard—Two-thirds of the fore-top-sail yard.
Royal-yards—Two-thirds the length of their respective top-gallant yards.*
Cross-jack yard—Same length as the main-top-sail yard.
Mizen-top-sail yard—The same length as the main-top-gallant yard.
Mizen-top-gallant yard—Two-thirds of the mizen-top-sail yard.
Spritsail-yard—Five-sixths of the fore-top-sail yard.

REMARKS.—Some have the spritsail-yard the length of the fore-top-sail yard. If it should be much shorter, the jib-sheets will chafe against the spritsail-braces.

Spanker-boom—The length of the main-top-sail yard; it is, however, made sometimes longer, sometimes shorter, according to fancy.
Mizen-gaff—Two-thirds the spanker-boom, liable to the same variation.

Thickness of Spars.

Masts—It has been customary to allow for every three feet of the mainmast's length, one inch of diameters in the partners; and for every inch of diameter at the partners, nine-tenths of an inch of diameter in the middle, between the partners and the extremity of the head, and two-thirds under the hounds, and all other masts in the same proportion; and with these proportions masts have been usually made.

---

* These dimensions of the yards include the yard-arms.

Some are of opinion, that one and a quarter inch diameter in the partners, for every three feet of length, is much better.

Yards—For every four feet of their length, allow one inch of diameter in the slings, and half that diameter within the squares, at the yard-arm.

Breadth of Tops.

Main-top—Half the ship's beam.
Fore-top—Eight-ninths of the main-top.

Rule for placing Masts in a Ship.

Take the ship's length, from the after part of the stem to the fore part of the stern-post, and divide it into sevenths. Place the foremast one-seventh of this length from the stem; the mainmast three-sevenths from the foremast; the mizenmast two-sevenths from the mainmast; and then there will be one-seventh distance between the mizenmast and sternpost.

This rule is for a full built ship. It must therefore be varied, when applied to vessels that are sharp, and the stem and sternpost of which rake. The foremast must accordingly be placed farther aft, the mizenmast farther forward, and the distance between the masts proportionably regulated.

Anchors.

In regulating the necessary weights of the anchors, five hundred pounds is allowed for every hundred tons of a ship's measurement for a merchant vessel. Ships above five hundred tons do not, however, require so great a proportion.

The anchor-stock must be the length of the shank, and half the diameter of the ring; and, for thickness, one inch is allowed in the middle for each foot in length, and reduced to half that at the ends.

The channels of a vessel ought to be placed so that the foremast dead-eye be either abreast of the mast, or a little more aft. By this means, the foremast catharpins will be prevented from binding against the mast.

Cables and Cordage.

The necessary size of cables is thus ascertained:—For each foot of half the extreme breadth of the ship's beam, allow one inch of circumference for the best bower cable, and for the smaller bower, something less. Thus, a ship of thirty-two feet beam, will require a sixteen inch cable.

Sail-Making.

As some sails cannot be cut without they are first projected on paper, particularly a schooner's mainsail, brig's treysail, &c., and as the diagonal scale is most convenient for this purpose, I shall here endeavor to describe its use. This scale is found on all gunter scales. The largest scale which I have made use of for the projections in this work, is numbered at the top, beginning at the left hand with 10, and ending towards the right with 1; the inch next to 1 is divided into ten equal parts, and through each division are drawn ten diagonal lines, numbered at the top, for every other division, viz. 2, 4, 6, 8. Parallel to the numbers at the top, are drawn ten lines, passing through the diagonal, equi-distant ; which divides the diagonal from the top downwards, into ten equal parts, and is numbered on the end 2, 4, 6, 8. Having given a description of the scale, we will now describe its use.

Suppose a number, consisting of three places of figures, was required, as 246, place one foot of the compass on 2, and extend the other to the diagonal line marked 4, and you will have 240 ; move both points of the compasses downwards, till they are on the sixth parallel division ; open the compasses a little, until the right hand point rests on the same diagonal line marked 4, and you will have the required number, 246. Suppose $26\frac{4}{10}$ were required, extend from 2 to the line marked 6, in the diagonal, move both points downwards, until they are on the fourth parallel line, open the compasses a little, until the right foot rests on the same diagonal marked 6, and you will have the number required, $26\frac{4}{10}$. In the same way, the quantities $24\frac{3}{10}$, $3\frac{4}{10}$, $4\frac{8}{10}$, &c., are measured. If you wish to find feet, inches, and parts, you must consider the feet divided into tenths, and the inches into tenths ; thus, 4 feet, 6 inches, are 4 feet, 5 tenths, being the same.

Again. Suppose you should wish to find 36 feet, 6 inches, then say 36 feet, 5 tenths. Set one foot of the compasses on 3, extend the other to the 6th diagonal line, move both points of the compasses downwards, until they are on the 5th parallel line, open them a little, until the right foot rests on the 6th diagonal line again, and you will have the number required.

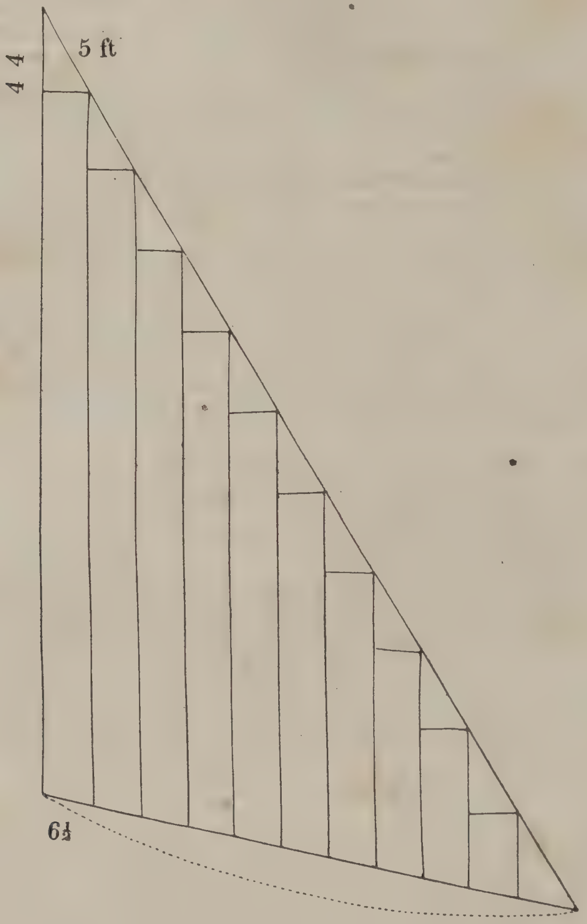
As this scale is divided into ten equal parts each way, we can find the inches pretty nearly, by observing the following proportions.

10 tenths are equal to one foot, or 12 inches.
5 tenths are equal to 6 inches.
$2\frac{1}{2}$ tenths are equal to 3 inches.
$7\frac{1}{2}$ tenths are equal to 9 inches.

Any one who is acquainted with this scale, can very readily construct one for feet and inches, by dividing the diagonal into 12 equal parts each way, which would answer a very good purpose for projections in the art of sail-making.

Ship or Brig's Jib.—Fig. 1.

The after leech of this sail is in length, 42 feet, and has eleven cloths in the foot, the foot gore in the whole sail is six feet.



To find the Gore to each Cloth in the foot.

Gore on the foot is 6 feet.
12

Divide by the number of cloths in the foot, 11)72 inches.

6 ft. $\frac{6}{11}$, which is 6½ in. nearly gore to each cloth.

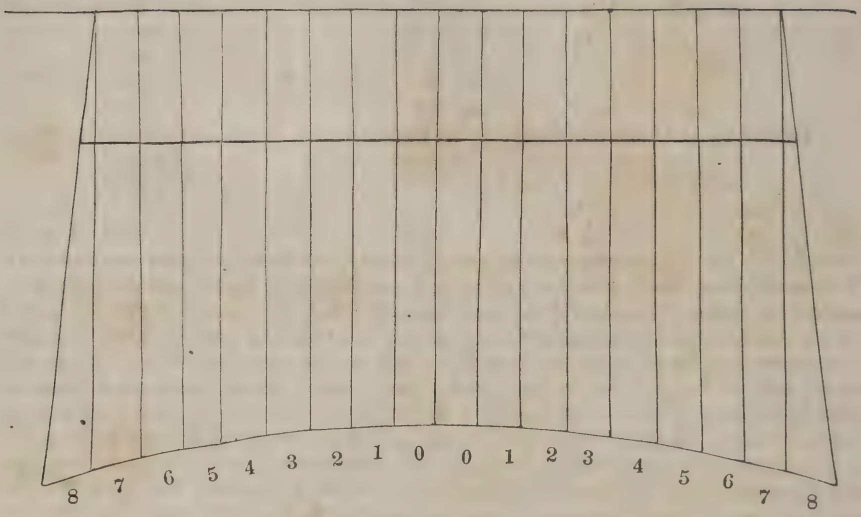
To find the Stay-Gore.

Add the length of the after leech	42 feet.
to the gore on the foot,	6 "
	48
	12
Divide by the number of cloths in the foot,	11)576 inches.
	12)52 $\frac{4}{11}$
	4 ft. 4 in. $\frac{4}{11}$

Which is 4 feet, 4 inches and one third, nearly, to find the gore on the stay. To cut the first cloth, presuming the canvass is square on the end, set off 6½ inches on either selvage of your canvass and mark it; run a piece of tarred twine from this mark, diagonally across the canvass, to the extreme point of the opposite selvage, so as to leave the mark on the canvass; cut through this mark, and you will have the foot gore for the first cloth; measure up on the shorter selvage 42 feet, and mark it; from this mark set off 4 feet, 4 inches, down towards the foot, (as in the figure,) and mark it; take a thread from this mark to the opposite selvage, mark it, run your twine from this last mark to the mark denoting the length of this first cloth, so as to leave the mark on the canvass; cut through this mark, and you will have the stay gore for the first and second cloths; turn your canvass so as to bring the longer selvage even in a line with the shorter selvage of the first cloth; measure down by this cloth for the length of the second cloth, and mark it; take a thread to the opposite selvage, mark it; set off 6½ inches downwards, mark it, run your twine from this last mark to the mark denoting the length of the second cloth on the opposite selvage; cut through from mark to mark, and you will have the foot gore for the second and third cloths. Turn your canvass so as to bring the shorter selvage to the longer selvage on the foot, in a line with the second cloth; measure up by this second cloth, for the length of the third cloth, mark it; measure from this mark 4 feet, 4 inches down towards the foot, and cut the stay-gore for the third and fourth cloths, as before directed. Continue turning, measuring, and cutting, until you have all the cloths required, observing to number each cloth as they are cut. For more particular directions for finding the gore on any sail, see studding-sail, figure 17, and observations thereon. In ropeing this sail, 3 or 4 inches slack cloth is taken up on the stay gore, and 2 or 3 inches on the foot for every yard in length. The leech does not require so much, however; you must govern yourself by the rope, as some rope will stretch more than others.

To prevent the sail rounding upwards, you can give it a small sweep or swell, at pleasure. (See remarks on fig. 16.)

Projection, Fig. 2.—Square Mainsail.



This sail is projected from the following dimensions:—

Mainyard, 44 feet.
8 do. deduction from its whole length.
—
36 feet square on the head.
Middle cloth is 22 do. in length.
Roach on the foot, 3 feet.
—
25 feet, whole depth of the sail.

One cloth is gored on each leech.

To measure for a main-sail, take the whole length of the main-yard, from which deduct from 6 to 8 feet, for the width on the yard. Measure from the upper part of the main-yard as far down the mainmast as you wish the foot to come for the middle cloth; gore one cloth on each leech from the head to the clues, and give the foot three feet roach from the middle cloth to each clue. You may have one, two, or four square cloths in the middle of the sail, only be careful to increase the roach proportionably on each cloth, as you gain towards the clues.

Bolt Rope.

Head, 2 inch.
Foot, 3¾ do.
Leeches, 3¼ do.

To cut the Canvass for this Sail.

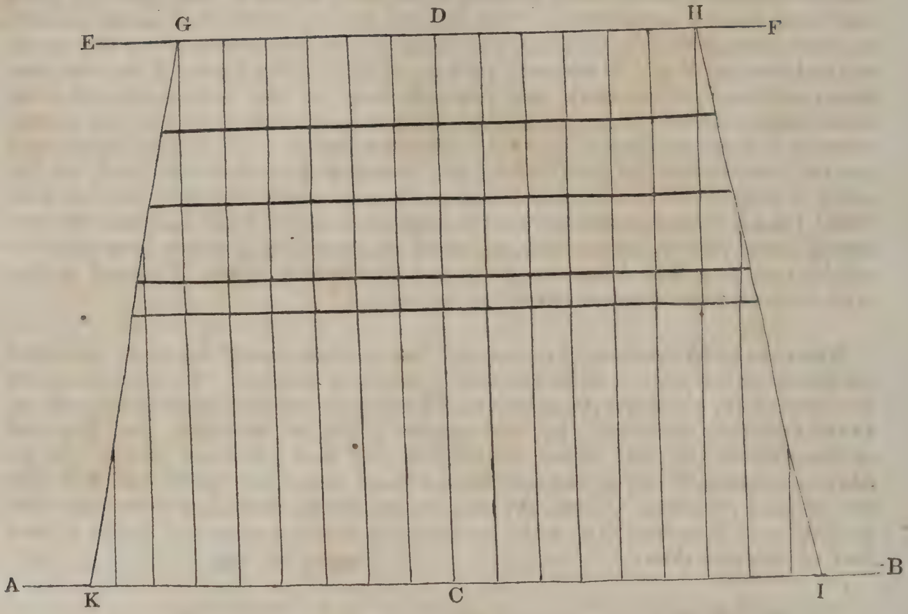
You may cut the two middle cloths square on the foot, if you please, as in the figure, and roach out towards the clues; increasing proportionably, so as to give the foot a fair roach: Thus, 0. 1 inch; 2, 3, 4, &c. to each cloth.

Measure your next cloth by the selvage of one of the middle cloths, and mark its length; take a thread across the canvass, and mark its opposite selvage; set off one inch downwards, and mark it; run your twine diagonally from this last mark, across the canvass, and cut from mark to mark, and you will have the roach for the second cloth. Set off one inc hup on the foot on the shorter or inner selvage of your canvass, and mark it; run your twine from this mark to the lower point of the opposite selvage, so as to leave the mark on the canvass; cut through this mark, and you will have the two inches roach for the third cloth. Place the longer selvage of the second cloth even with the shorter selvage of your canvass at the foot. Measure up by this second cloth, and cut the head square for the third cloth. Measure down from the head, on the outer or longer selvage by this third cloth, and mark its length on your canvass; take a thread square across the canvass, and mark the opposite selvage; set off three inches downwards, and mark it, cut straight across from mark to mark, and you will have the roach for the fourth cloth. Proceed in this way until all your canvass is cut for the sail.

Remarks.—In roaching a square sail, every cloth should increase in length on the outer selvage, so as to give a fair roach on the foot. To find this roach for each cloth, set down the number of inches you intend roaching the sail, as in the following example. Let us suppose 3 feet, or 36 inches, were required in the mainsail, fig. 2d. Now we have in the foot 18 whole cloths. As we have two square cloths in the middle, we have but eight cloths on each side that require roaching. Then, suppose we say for the first cloth 0, second cloth 1, third cloth 2 inches, &c., until we have the whole number of cloths in one half of the sail, thus:

First trial for 9 cloths. For 36 inches roach.	*Second trial.* 36 inches.	*Third trial.* 36 inches.
0	0	0
2	0	1
3	1	2
4	2	3
5	3	4
6	4	5
7	5	6
8	6	7
9	7	8
44 in. too much.	28 not enough.	36 in. required roach.

Projection, Fig. 3.—Topsail.



Draw the base line A B at pleasure, on which erect the perpendicular C D; take 29 feet in your compasses from the diagonal scale, and set it off from C to D, for the hoist. Draw the line E F parallel to A B, take half the width of the sail at the head, viz. 13 feet, 6 inches from the same scale, and set it off from D to H, and from D to G. Take half the width of the sail on the foot, viz. 19 feet, in your compasses, and set it off from C to I, and from C to K; join H I and G K, and it is done.

E F represents the whole length of the topsail-yard, 35 feet, and A B the main-yard, 44 feet.

No particular rule can be given to measure a topsail for its width on the topsail-yard, as the head of this sail is governed in proportion as the topsail-yard is to the main-yard, and also in the hoist; for, if the topmast be very taunt, the less will be the angle on the leech; but if very short, the greater will be this angle; now, in the one case, this sail would require more gore, and in the other, less. We shall now proceed to show how to measure, presuming on the following differences between the yards, from the main to the royal-yard, which will answer to the projections of figures 2d, 3d, 4th, and 5th.

Main-yard, 44 feet, topsail-yard, 35 feet, topgallant-yard, 25 feet, royal-yard, 18 feet; these proportions were taken from a high, full built brig, and the measures for her sails were precisely as given in this work.

In measuring for any square-sail, with more or less reefs, you must cut the sail in such a manner as to allow the sail, when close-reefed, to come with a tort band between the lifts. (See fig. 18, and remarks thereon.)

To measure for a Topsail.

Measure from the hounds to the heel of the topmast; for the middle cloth or hoist, take the whole length of the topsail-yard, from which deduct eight feet; take the whole length of the main-yard and deduct about six feet;—these measures are for a sail cut square on the foot. If you intend roaching the sail on the foot, cut the middle cloth as many feet less than the measure, from hounds to heel, as you intend the roach shall be, and find the roach in the same manner as for the mainsail.

To cut the Cloths.

Cut as many cloths as your topsail-yard requires, square on the head and foot, of the same length as the middle cloth; take half the difference between the width of the sail on the top-sail yard and main or lower-yard; straighten the selvage of the last cut cloth; set off on a straight line from the lower end of this cloth, in a line with the foot, this half difference, and mark it; place the selvage of your canvass one inch over the outer selvage of this last cloth; run your twine (tarred, so as to leave the mark on the canvass) from the upper end on the outer selvage to the mark denoting the half difference between the head and foot; cut through this mark, and you will have the leech gore. All the other cloths for the gore on the leech, may be cut by this cloth; you can find the gore as in the jib or any other sail.

Rule for the Reefs, &c.

Take the middle of the sail from the topsail to the lower-yard, for the reef-tackle cringle; place the close-reef cringle eighteen inches above the middle of the sail, and divide the other reefs at pleasure.

Reef Bands.

One quarter the width of canvass, about 29 inches wide for each reef; the reef bands of topsails go over the linings from leech to leech, and are stuck with 68 or 72 stitches in a yard. Reef-bands should not be put on until the sail is sewed up. A contrary practice being very erroneous.

Tablings of all sails, are to be a proportionable breadth to the size of the sail.

Linings.

All linings are seamed on, and are stuck, or stitched, in the middle, with 68 or 72 stitches in a yard; top linings and mast cloths are put on the after side; and all other linings on the fore side, of sails. The leech-linings for topsails should be half a breadth of canvass. The top linings cover one-third of the cloths at the foot; two mast cloths are put on in the middle of the sail, on the aft side. The buntline cloths are put on the fore side of the sail, and are a foot and a half shorter than the top linings.

Bolt-Rope.

The size of the rope is as follows, for the the topsail to a brig about 260 tons; head, $2\frac{1}{4}$ inch; foot, $3\frac{3}{4}$ inch; leeches, 3 inch. Three inches of slack cloth are taken up in sewing on the bolt-rope in every cloth on the head and foot, and one inch and a half are taken up for every yard in the leeches.

The bolt-rope along the top-brim, and for one cloth and a half on each side beyond, is wormed, parcelled, and served as the clues, and is marled to the sail; but sometimes the whole length of the foot-rope, from clue to clue, is wormed, parcelled, &c.

Clues.

The clues are made of the foot-rope, which is left sufficiently long for that purpose, and spliced into the leech-rope at the lower bow-line cringle. It is wormed, parcelled, and served three feet from them towards the head.

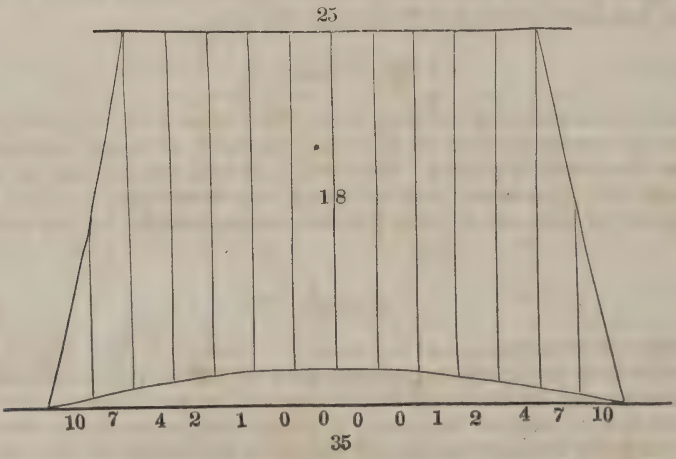
Cringles.

Cringles should be made with the strands of new bolt-rope, half an inch smaller than the bolt-rope on the sail; all the bow-line cringles must be below the close reef, all splices in the rope should be cross stitched, and also in the wake of each cringle.

Seams.

Seams should be sewed with the best twine, of three threads, spun 360 fathoms to the pound; and to have from 108 to 116 stitches in a yard in length; the breadth of the seams should be about one inch: you must be careful to place the selvage of your canvass, throughout, the same way.

Topgallant-Sail.—Fig. 4.



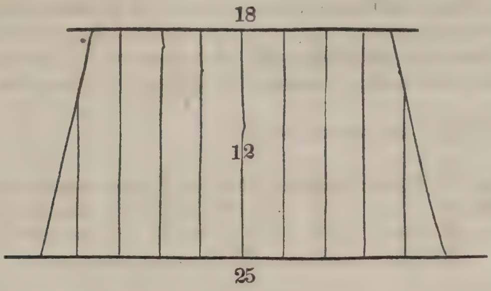
Measure from the hounds to the heel of the topgallant-mast, for the hoist, or middle cloth; take the whole length of the topgallant-yard, from which deduct three feet; take the whole length of the topsail-yard, from which deduct five feet. If you intend roaching this sail on the foot, cut the middle cloth as much shorter as you intend the roach shall be. Govern yourself as respects roaching this sail, as per directions, (mainsail,) and for the gore by the topsail. Earing-pieces of a quarter of a yard, are put on each corner, at the head: in roping, allow two inches slack cloth for every cloth in the foot, and one inch for every yard in the leech.

Bolt-Rope.

Head,	$1\frac{1}{2}$ inch.
Foot,	$2\frac{3}{4}$ "
Leech,	$2\frac{1}{4}$ "

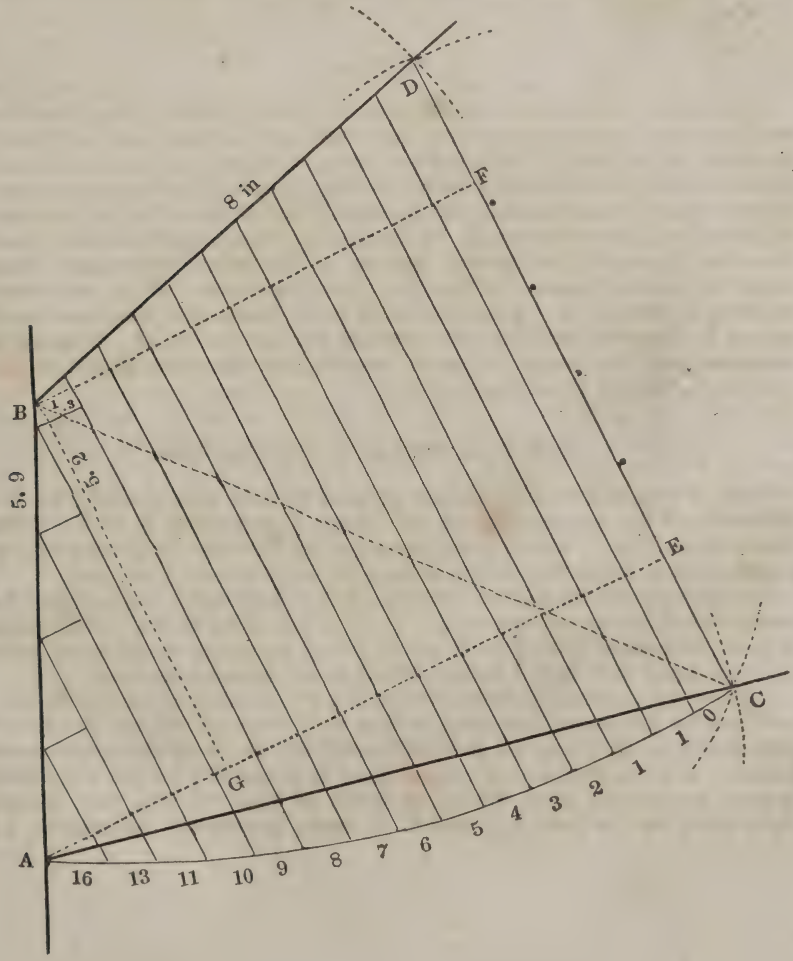
To project this sail, see topsail.

Royal.—Fig. 5.



This sail is projected by the same rule.

Brig's Treysail.—Fig. 6.



General Directions.

Measure from the outer end of the boom seven feet in, and mark it. Take the length of the treysail-mast from the under part of the top, down the mast, (for the hoist on the luff,) to the boom; from which deduct five feet. Take the whole length of the gaff, from which deduct three feet. Take one end of your line, five feet below the top, as at B, on the after part of the treysail-mast, diagonally to the before mentioned mark, as at C, (7 feet from the boom end,) and this will show the position of the mast to the boom; observing that the boom is as high from the taffrail as you wish it to be when the sail is set. Take the whole length of the boom, from which deduct 7 feet, for the foot of the sail.

Dimensions of Fig. 6 are as follow:

Treysail-mast, 29 feet: deduct 5 feet, is 24 feet hoist. = A B.
Treysail-boom, 44 feet: " 7 " is 37 " on the foot. = A C.
Gaff, 30 feet: " 3 " is 27 " on the head. = B D.
Diagonal, 39 feet, 4 inches: B C after leech, is 37 feet. = D C.

From these dimensions, we will now proceed to show how this sail is to be projected.

The depth of the after leech should be about one-third more than the fore leech.

Projection.

Draw a line at pleasure, representing the mast. Take 24 feet from the diagonal scale, in your compasses, and set it off on this line from A to B. Take the width of the foot, (37 feet,) and with one foot on A, describe an arch at C. Take the length of the diagonal, (39 feet, 4 inches,) and with one foot on B, describe another arch, cutting the former in C. Draw a line at pleasure from A through C, on which set off 44 feet for the whole length of the boom; and this shall represent the relative position of the boom to the mast. Take the length of the after leech, (37 feet,) in your compasses. With one foot at C, describe an arch at D. Take the width at the head, (27 feet,) and with one foot at B, describe another arch, cutting the former in D. Draw a line at pleasure from B, through D; set off on this line, the whole length of the gaff, (30 feet.) Join C D, and it is done.

To find the Gore on the head and foot.

Take a square, and lay one side parallel with the after leech C D. Let the other side of the square rest on A. Draw a line from A to E. Take the extent from C to E, which being measured on the same diagonal scale, will be found equal to eight feet, which is the gore on the foot of this sail.

Lay one side of the square again parallel with the after leech C D. Let the other side of the square rest on B. Draw a line from B to F. Take the extent in your compasses from F to D, which being measured on the same scale, will be found equal to 7 feet, 4 inches, which is the gore on the head.

I shall now proceed to show how to find the number of cloths in the head and foot, by the use of the scale, with a view to make its use familiar. The projection (fig. 6) being on a small scale, the width of the cloth cannot be found to so great a degree of accuracy as is required; or the least deviation in your compasses, from the exact width of your canvass, will, in stepping them along on the lines A E and B F, make a material difference. I shall, however, consider the number of cloths in the head and foot, the same as found by the scale, which will answer our purpose as well as if the most accurate calculation had been made.

To find the number of Cloths in the head and foot.

I shall suppose the cloths to be 29 inches wide; shall therefore take 28 inches in the compasses, which will allow one inch for seams. Place one foot of the compasses on the right hand perpendicular line of the diagonal scale, between the third and fourth parallel lines, (midway;) extend the other to the diagonal line marked 2, at the top, and you will have two feet and one-third of another foot, or twenty-eight inches nearly, which is the width required. With this extent in your compasses, place one foot on the after leech at E, and step them along from E to A, on the dotted line, so as to leave the mark for each division, and you will find the number to be 15, which is the number of cloths required in the foot of this sail.

With the same extent in your compasses, place one foot on the after leech at F. Step your compasses as before on the dotted line from F to B, and you will find the divisions to be 10 and one more, nearly; which I call ten cloths and three quarters in the head of this sail. Through these marks, on the lines A E and B F, draw lines parallel to the after leech, until you have the whole number of cloths in the head. Then place one side of your square parallel with, or on the line A, E, so that the other side shall be on the next division. Draw from this line (A E) the twelfth line, as in the figure, perpendicular to A E to the mast; continue this line to the foot of the sail, which will be the eleventh cloth in the foot; and about three quarters of this cloth will be in the head—the gore being shown on the mast at B.

Again. Place one side of the square as before, so that the other side shall be on the next division. Draw the line from this division to the mast, continue this line through the point denoting the twelfth division on A E, to the foot of the sail; which will be the twelfth cloth in the foot, and the gore will be shown on the mast for every whole cloth in the foot. Place one foot of your compasses on the mast at the end of the last drawn line. Extend the other up the mast to the end of the next line on the mast, as in the figure. With this extent in your compasses, place one foot on the perpendicular line at the top of the diagonal scale, to the left hand; and the other foot will extend to the right, to the diagonal line marked 6, nearly. Move both points of the compasses downwards, keeping the left hand point on the perpendicular line, until the right foot rests on one of the diagonal divisions; which will be the fifth, when both points are midway between, and parallel to, the seventh and eighth parallel lines. This gives you 5 feet and 7½ tenths of another foot, and is therefore 5 feet, 9 inches; which is the mast gore for every cloth. Should there be any part of a cloth in the head or foot, take the extent as shown on the mast in your compasses, and find its length from the scale before mentioned.

I shall now proceed to show how to cut this sail, and to ascertain the gore in each cloth by calculation.

To find the Foot Gore for each Cloth.

The foot gore in the whole number of cloths, is 8 feet, or 96 inches. Proceed for the gore precisely as in finding the roach in the foot of the mainsail. The number of cloths on the foot, are 15.

First trial for	*Second trial.*	*Third trial.*
8 ft. gore for 15 cloths.	8 ft. gore for 15 cloths.	8 ft. gore for 15 cloths.
96 inches.	96 inches.	96 inches.
0	1	0
0	2	1
1	3	1
2	4	2
3	5	3
4	6	4
5	7	5
6	8	6
7	9	7
8	10	8
9	11	9
10	12	10
11	13	11
12	14	13
13	15	16
91 not enough.	120 inches too much.	96 no. required.

That is, each cloth must be gored on the foot, as in the figure ; the first cloth being square, which is 0 second and third ; each 1, or one inch ; fourth, 2 inches, fifth, 3 inches ; increasing proportionably up from the clue to the luff, or tack on the boom.

To find the Head Gore.

In the head we have ten whole cloths and three quarters, which we shall call eleven, in finding this gore. The gore on the head is 7 feet, 4 inches. Proceed as follows :

Gore on the head, 7 feet, 4 inches.
12

Divide by the number of cloths in the head, 11)88(8 in.
88

Giving 8 inches gore on the head to each cloth.

To find the Gore on the Mast.

Take the extent in your compasses, from G to B, or any where between E F, parallel to the after leech. With this extent, set one foot on the scale without the diagonal on the figure 2, and the other will extend to the diagonal marked 2, nearly. Move both points of the compasses downwards as before directed, and you will find the right-hand point to rest on the first diagonal line, when both points are on the eighth parallel line, which is 21 feet and eight-tenths of another foot—being a fraction short of 21 feet, 10 inches. Divide this by the number of cloths that require goring on the mast ; or say by proportion, thus :

As 4¼ cloths is to 21 feet, 10 inches, so is 1 cloth to the required number of feet and inches, measured on the after selvage to the gore on the luff. Reduce all the terms to inches.

$4\frac{1}{4}$ 28 112 7	21.10 12	1 28

As 119 inches is to 262 in. so is 28 to the number required.

$$\begin{array}{r} 262 \\ 28 \\ \hline 2096 \\ 524 \\ \hline 119)7336(61 \\ 714 \\ \hline 196 \\ 119 \\ \hline 77 \end{array} \qquad \text{reduced to ft.} \qquad \begin{array}{r} 12)61 \\ \hline 5.1\frac{77}{119} \end{array}$$

Or by Logarithms, thus :

Add the log. of the 2d term,	262 inches,	2.41830
To the log. of the 3d term,	28 "	1.44716
		3.86546
And subtract the log. of the 1st term 119	"	2.07555
And you will have the same result,	61.65 =	1.78991

Which is 5 feet, 1 inch, and $\frac{65}{100}$ of another inch. I would observe the nearest logarithm was found to be 78993, (proportion neglected.)

Proceed for the gore on the mast precisely as for the stay-gore on the jib. However, as we are now prepared for cutting the cloth, I shall again particularly show how the gore on the mast is to be found, from the preceding result of our calculations. Call the gore 5 feet, 2 inches, as marked on the after selvage of the first whole goring cloth in the luff, (fig. 6.)

To cut the Cloths.

Measure the first cloth for the after leech, 37 feet in length, and mark it. Set off eight inches down the selvage towards the foot of the canvass, and mark it. Take a thread to the opposite selvage from this mark, and mark it. Run your twine from this last mark across the canvass, to the mark denoting the whole length of the cloth. Cut through from mark to mark, and you will have the head gore for the two first cloths; turn your canvass so as to bring the longer selvage to the shorter selvage of this first cloth, so that the two cloths at the head shall be in a line. Measure down by this cloth for the length of the second cloth, and mark it. Take a thread across the canvass to the opposite selvage, and mark it. Set off one inch upwards, and mark it. Run your twine from this last mark to the first mark denoting the length of the second cloth. Cut through from mark to mark, and you will have the foot gore for this second and third cloths, both being one inch. (See fig. 6.) Turn your canvass so as to bring the longer selvage to the shorter selvage of this second cloth in a line on the foot. Measure up by this cloth for the length of the third cloth, and cut the gore eight inches on the head as before. Turn your canvass, and place it in a line with this third cloth, measure down for the length of the fourth cloth, mark it. Take a thread from this mark to the opposite selvage, mark it. Set off 2 inches upwards, and mark it. Run your twine from this last mark to the mark denoting the length of the fourth cloth, and you will have the gore on the foot for this fourth cloth. It is evident your canvass on the after selvage is two inches longer than the forward selvage; now, according to the figure, the next cloth requires three inches gore, set off one inch on the foot of this, up on the shorter selvage, mark it, run your twine from this mark to the opposite selvage to the extreme point, so as to leave the mark on the canvass. Cut through this mark, and you will have three inches gore on the foot of the fifth cloth; proceed in this manner for the gore on the head and foot until all the cloths are cut.

I shall now show how the gore on the mast is found, from the preceding calculation, by taking the distance from G to B, parallel with the after leech.

And, first, for the gore on the quarter of the cloth at B. In our calculation we found that 5 feet, 2 inches, was to be our guide for the gore to each cloth on the mast, and as we have one quarter or seven inches of the eleventh cloth to be gored, we will divide these 5 feet, 2 inches, which are 62 inches, by 4.

$$\begin{array}{r} 5.2 \\ 12 \\ \hline 4)62 \\ \hline 12)15.2 \\ \hline \end{array}$$

$1.3\frac{2}{4}$, which is one foot, 3 inches and one half.

In cutting the head gore for the eleventh cloth, cut the cloth quite through as before, set off eight inches on the after or longer selvage of this cloth, from the head downwards, and mark it. Set off 21 inches from this mark, straight across the canvass, by a thread, and mark it. Lay your scale parallel with the selvage on this mark, so that the upper end shall be a little above the head of this cloth, and with a piece of charcoal draw a line from the head through this mark quite to the extent of the scale; on which set off from the head downwards, one foot, three inches, and mark it. Lay your scale from this mark by a thread to the inner selvage, and mark the selvage. Cut from this mark diagonally, to the upper part of the mark on the head, and you will have the gore for this eleventh cloth on the mast. (See fig. 6.)

We will presume the canvass was cut last for the head gore of the eleventh cloth. If so, we have eight inches gore in the canvass. The next cloth requires ten inches gore on the foot. Set off 2 inches on the shorter selvage of your canvass, and mark it. Run your twine from this mark to the extreme point of the after or longer selvage. Cut through this mark, and you will have the gore for the twelfth cloth on the foot. Place the longer selvage to the shorter selvage of the eleventh cloth in a line with the foot, measure up by this cloth for the length of the twelfth cloth, and mark it. Set off 5 feet, 2 inches downwards from this mark on the after selvage, and mark it. Take a thread to the opposite selvage, and mark it. Run your twine from this mark to the first mark denoting the length of this cloth, so as to leave the mark on the canvass. Cut through this mark, and you will have the gore for the twelfth and thirteenth cloths on the mast. Place the longer selvage of your canvass to the shorter selvage of the last cloth in a line. Measure down by this last cloth for the length of the thirteenth cloth, and mark it. Take a thread to the opposite selvage, and mark it. Measure up 11 inches from this mark on the fore selvage, mark it, and cut the foot gore. Turn your canvass, and set off 2 inches upon the shorter selvage, mark and cut the foot gore. Measure by the last cloth, and cut the gore on the mast. Cut the next and last cloth with 16 inches gore on the foot, and it is finished.

Reef Bands.

This sail has three, six inches broad, parallel to the foot. The upper reef is nearly half way up the fore leech, and the other at equal distances between that and the foot.

Linings.

The after leech is lined with one breadth of cloth from the clue to one yard above the upper reef band. The peek-piece is a yard in length, and the fore leech is lined with a half a breadth of cloth.

Slack Cloth.

In sewing on the bolt-rope, four inches of slack cloth is taken up with the rope in every yard on the mast leech.

Bolt-Rope.

Foot and mast-rope,	$2\frac{3}{4}$	inch.
Head-rope,	2	"
After leech,	$3\frac{1}{4}$	"
Clue-rope,	$3\frac{3}{4}$	"

As I before observed that the number of cloths in the head and foot of this sail could not be found accurately by the scale and compasses, I shall now show how they are to be found.

To find the number of cloths required in the head of the treysail, presuming the canvass to be 29 inches wide.

Take the distance in your compasses from F to B, which you will find equal to 25 feet, 9 inches. Reduce the feet and inches to inches, and divide by the width of the cloth, less one inch, which will allow for seams.

```
    25 ft. 9 in.
    12
    ——
28)309(11 cloths, 1 inch.
   28
   ——
    29
    28
    ——
     1
```

To find the number of Cloths in the Foot.

Take the distance in your compasses from E to A, which you will find equal to 36 feet. Proceed as above.

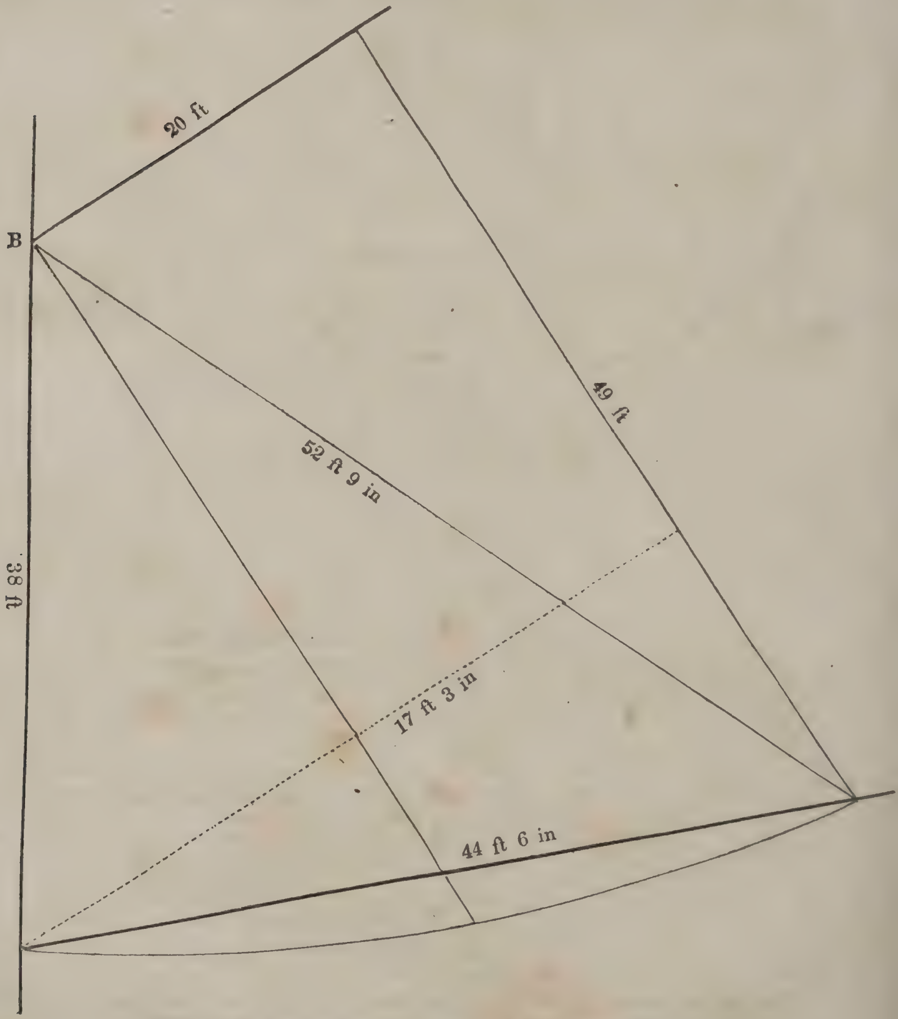
```
    36 feet.
    12
    ——
28)432(15 cloths, 12 inches of another cloth.
   28
   ——
   152
   140
   ———
    12
```

The above calculation fully proves that the scale and compasses cannot be depended upon for dividing the lines B F and A E with sufficient accuracy to find the number of cloths in the head and foot. My object in doing this, was, to make it serve as a caution, that too much dependence should not be placed on the scale and compasses for this purpose. But for the projection they will answer every purpose. If care be taken, the gores can be found to a very great degree of accuracy.

REMARKS.

I would here observe, that the gore on all boom-sails, both in the head and foot, depend principally on the proportion of the gaff to the boom; that is, if the boom is long in proportion to the gaff, the less will be the gore in the head; but, if the gaff be long in proportion to the boom, the greater will be the gore in the head.

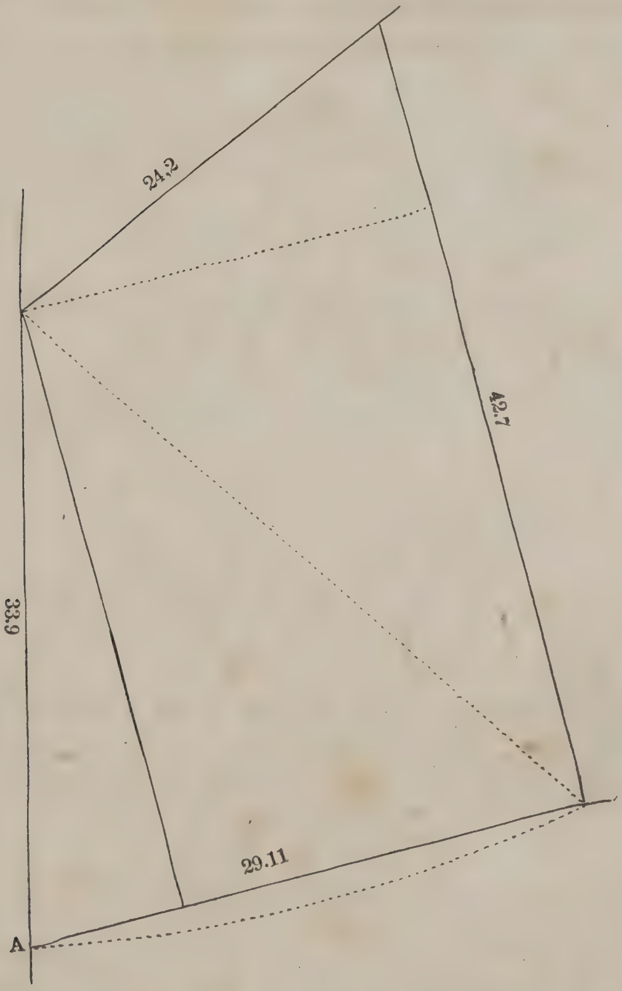
Fig. 9 *represents a Schooner's Mainsail, of the following proportions, viz.*



Width of the sail on the foot,	44 feet, 6 inches.
Hoist on the mast,	38 "
Width on the head,	20 "
Length of the after leech,	49 "

Take a square, place one side parallel with the after leech, let the other side rest on B, and you will find the gaff perpendicular to the after leech, or parallel with the other side of your square. Consequently there can be no gore in the head of this sail, the whole gore being in the foot, which will be found equal to 17 feet, 3 inches; therefore, all the cloths in the head must be cut square. The gaff will peek equally as much as if the gore had been wholly in the head.

Fig. 10 *represents a Schooner's Foresail, of the following dimensions.*

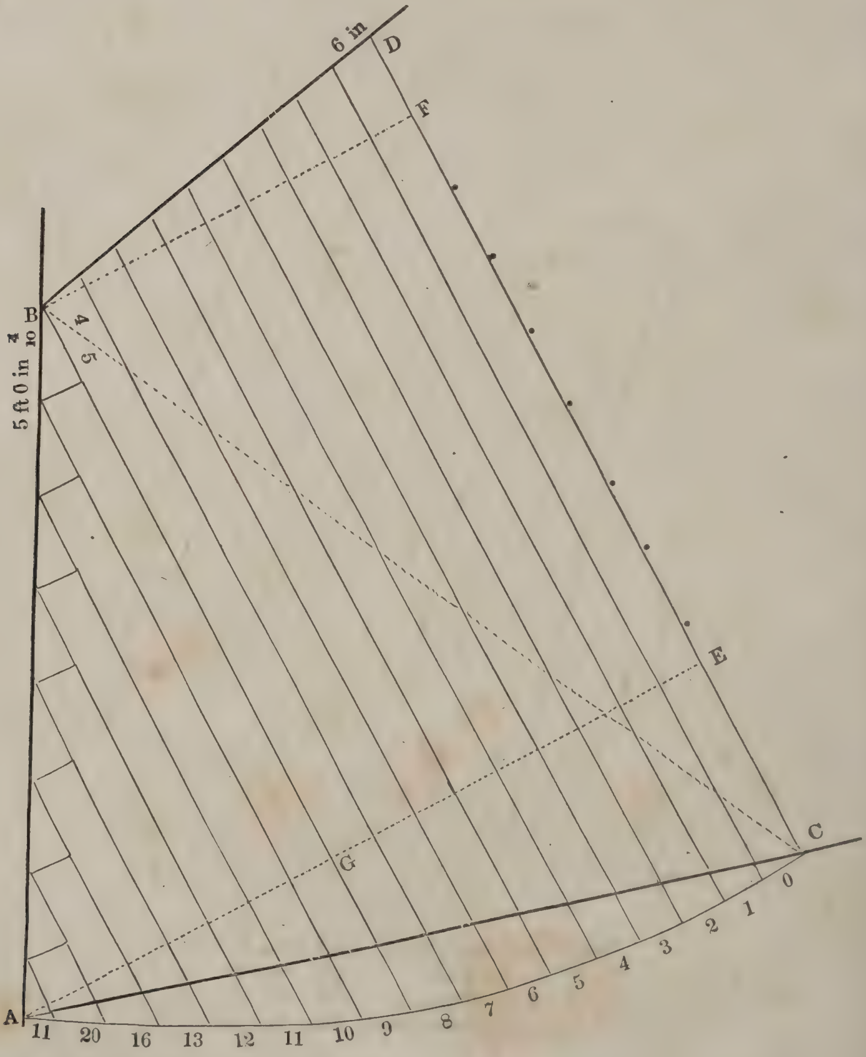


Width on the boom,	29	feet, 11	inches.
Width on the gaff,	24	" 2	"
Hoist on the mast,	33	" 9	"
Length of the after leech,	42	" 7	"

Place one side of a square parallel with the after leech, let the other rest on A, and you will find the boom perpendicular to the after leech or parallel with the other side of your square; consequently there can be no gore in the foot of this sail, all the gore being in the head, and the cloths in the foot are all cut square; hence the necessity of projecting this sail.

It may not be amiss to observe, that no attention whatever need be paid to the rake of the mast, as the position of the boom to the mast is found by measuring from the hoist on the mast, to that part of the boom denoting the extreme width on the foot at the clue, you may draw a straight line representing the mast in any position, only follow the rule for placing the boom with the mast by means of the diagonal, as given in the treysail. (Fig. 6.)

Schooner's Mainsail—Fig. 11.



General Directions.

Measure from the hounds, down the mast, to the boom, for the hoist on the mast; from which deduct $6\frac{1}{2}$ or 7 feet. Take the whole length of the boom less 7 feet, and the whole length of the gaff less 3 feet.

As there are different opinions respecting the peek on large boom-sails, I shall give no rule for the difference between the length on the mast and after leech. I will only observe, that in projecting the sail, (fig. 6,) you may place the gaff in such position as best suits you, and cut the sail accordingly.

Figure 11 represents a schooner's mainsail, of the following dimensions:

Hoist on the mast,	38 feet.
Width on the boom,	42 feet.
Width on the gaff,	22 feet, 3 inches.
Length of the after leech,	48 feet, 9 inches.
Diagonal,	49 feet, 6 inches.
Gore on the head,	4 feet, 5 inches.
Gore on the foot,	11 feet, 6 inches.

To find the number of Cloths required in the head, supposing them to be 29 inches wide.

Take the distance in your compasses from F to B, which you will find equal to 21 feet, 9 inches on the diagonal scale. Reduce the feet and inches to inches, and divide by the width of your cloth in inches.

Example.

Distance from B to F is 21 feet, 9 inches.
Reduced to inches, 12
Divide by the width of the cloth in inches, 29)261(9 cloths required in the head.
261

To find the number of Cloths required in the Foot.

Take the distance in your compasses from E to A, which you will find equal to 40 feet, 3 inches, and proceed as above.

Distance from E to A, 40 feet, 3 inches.
12
29)483($16\frac{2}{3}$ cloths in the foot.
29
193
174
$\frac{19}{29}$ two-thirds, nearly.

To find the Gore on the Mast.

Take the distance in your compasses from G to B, which you will find equal to 33 feet.

Take the difference between the cloths in the head and those in the foot, viz. in the head 9 cloths.
In the foot $16\frac{2}{3}$

$7\frac{2}{3}$ which I shall call seven cloths and 20 inches of another cloth.

Then say by proportion, as 7 cloths 20 inches are to 33 feet, so is one cloth or 29 inches to the required number of feet and inches, on the after selvage to the gore on the mast.

As 7 cloths 20 in. are to 33 feet, so is 29 inches to the number required.
28 12
196
20
216 : 396 : : 29
29
3564
792 12
216)11484(53
1080
4 ft. 5 in. Measured on the after selvage of each cloth for the gore on the mast. See directions for treysail and jib.
684
648
36

Or by Logarithms.

Add the logarithm of the second term, 396 inches, 2.59770
To the logarithm of the third term, 29 inches, 1.46240

4.06010
Subtract the log. of the first term, 216 inches, 2.33445

And you will have the same result. 12)53 in. $\frac{17}{100}$ 1.72565

4 ft. 5 inches. The fractions are neglected in both cases.

To find the Gore to each Cloth on the head.

Gore on the head is 4 feet, 5 inches.
12

Divide by the number of cloths in the head, 9)53

5 feet $\frac{8}{9}$, which I shall call 6 inches for the gore to each cloth on the head.

To find the Gore for each Cloth on the foot.

First trial.

Gore in the foot is 11 ft. 6 in.
12
——
138
——
0
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
10
——
145 too much.

Second trial.

0
1
2
3
4
5
6
7
8
9
10
11
12
13
16
20
11
——
138 required gore.

REMARKS.

All gaff and boom-sails, such as ship's mizens or spankers, brig's treysails, schooner's mainsails and foresails, sloop's mainsails, &c. are projected, gored, and cut by the rule heretofore given for the treysail; you have only to guide yourself by these rules for any gaff or boom-sail whatever. And the number of cloths in the head and foot, together with the gore, are found by the rule as given for the mainsail. (Fig. 11.)

Canvass, cut goring, will stretch more or less; but if cut by a thread it will stretch but very little, if any. A jib on the stay will stretch considerably, but on the after leech, little or nothing. Schooner's mainsail will stretch on the mast, and if gored much on the head and foot they will also stretch. But the after leech will remain nearly the same. The deductions which have been made on the head and foot of these sails are for the above reasons. On the mast the deductions were made to allow room enough for the blocks on the gaff and under the cross-trees or top, and also for the stretching of the canvass on the luff of the sail.

Reef Bands.

To have four in number, eight inches broad, and put on parallel to the foot. They are equally divided about 5 feet each from the tack up the mast.

It is customary to have the fourth a balance reef, the band being put on from the nock near the jaws of the gaff, to the third reef cringle on the after leech; but I have found that such reefs generally set badly, the canvass being very slack, and liable to tear, particularly in sails much worn. I should prefer having this fourth reef parallel with the foot, the same as the others, placed in such a manner as to make a snug storm-sail when this reef is in.

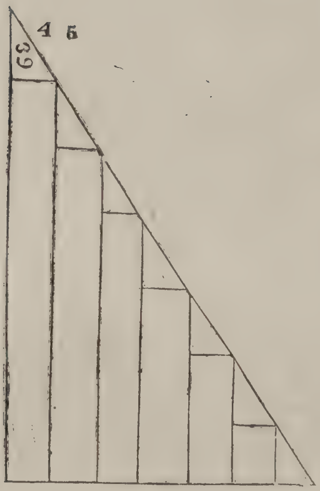
The mast-leech is lined with a half breadth of cloth from the tack to the head of the sail. The after leech the same as the brig's ; and the peek is lined with a cloth one yard and a half in length.

Slack Cloth, to be taken up in sewing on the bolt-rope, is four or five inches in every yard on the mast-leech.

Bolt-Rope.

Foot and mast-rope,	2¾	inch.
Head-rope,	2	"
After leech,	3¼	"
Clue-rope,	3¾	"

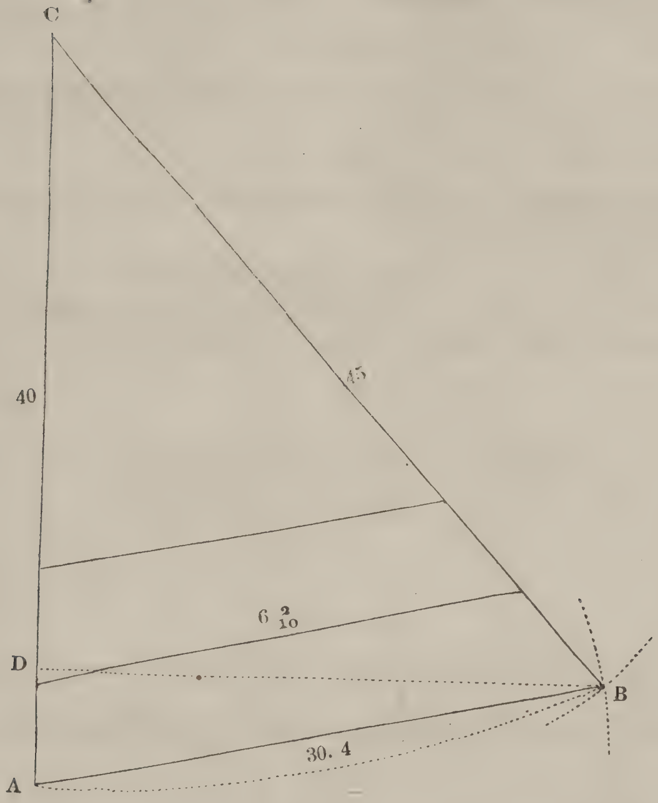
Foretopmast-Staysail.—Fig. 12.



The after leech is generally the same depth as the foretop-sail. Six or seven cloths are allowed in the foot of this sail.

Bolt-Rope.—Stay-foot and leech 2¾ inch. The foot is cut square. For gore on the stay, see jib.

Schooner's Jib.—Fig. 13.



This sail must be projected, in order to find the gore on the foot.

Dimensions.—Measure from about four feet below the collar of the stay down towards the deck, placing your line as far aft and as high from the deck as you wish the clue to be when the sail is set, for the length of the after leech. Mark, and keep the line in this position. Run the other end or another line to the stay, where you intend the tack shall be, for the length on the foot. Measure, for the hoist on the stay, four feet below the collar to the tack, and project the sail as follows:

Draw the line C A at pleasure, on which set off 40 feet. Take the length of the foot in your compasses 30 feet, 4 inches, and, with one foot on A, describe an arch at B. Take the hoist on the stay 45 feet in your compasses, and, with one foot on C, describe another arch, cutting the former in B. Join A B and B C, and it is done.

To find the Foot Gore.

Place one side of a square parallel or in a line with the after leech. Let the other side rest on B. Draw the line D B. Take the extent from A to D in your compasses, which will be found equal to 6 feet $\frac{2}{10}$ on the diagonal scale, which will be the gore in the foot of this sail, and is called a long gore.

Bolt-Rope.—Three inches on the stay, foot, and leech.
Clue-Rope.—Three and a half inches.
Reef is six feet deep parallel with the foot.

Clue-Piece.

One breadth of canvass, from the clue, a foot and a half above the reef.

Bonnet.

The sail is first sewed together, and the bonnet is then cut off parallel with the foot and is about six feet deep.

To find the number of Cloths in the foot.

Take the extent from B to D, which you will find equal to 28 feet $\frac{6}{10}$, or 7 inches, nearly. Divide this by the width of the cloth in inches.

28 feet, 7 inches.
12

28)343($12\frac{1}{4}$ cloths in the foot of this sail.
28

63
56

$\frac{7}{28}$

To find the gore for each cloth on the foot. We will find this by proportion, and say,

If 12 cloths, 7 in. require 74 inches gore, what will 28 in. require, (or one cloth.)

28	28
96	592
24	148
336	343)2072(6 inches foot gore to each cloth.
7	2058
343	14

Or by Logarithms.

Add the logarithm of the second term,	74 inches,	1.86923
To the logarithm of the third term,	28 inches,	1.44716
		3.31639
And subtract the log. of the first term,	343 inches,	2.53529
	6 inches, $\frac{41}{1000}$	0.78110

To find the Gore for each Cloth on the Stay.

As the stay was measured for the hoist of the sail, we have only to divide the length on the stay by the number of cloths in the foot. As our divisor is 12¼, let us take 4 times this sum for a divisor, and multiply the quotient by 4, thus:

```
Length on the stay,              45 feet.
Reduced to inches,               12
                                 ——
12¼, four times this sum, is  49)540(11       11
                                 49            4
                                 ——           ——
                                  50       12)44
                                  49          ——
                                  ——           3 feet, 8 inches gore to each
                                   1             cloth on the stay.
```

By Proportion.

```
12.7   :    45    :    :    28
28          12
——          ——
103         540
24           28
——         ————
343        4320
           1080   12
          —————   ——
     343)15120(44
          1372    ——
          ————     3 ft. 8 in.
           1400
           1372
           ————
             28
```

By Logarithms.

And first by division.

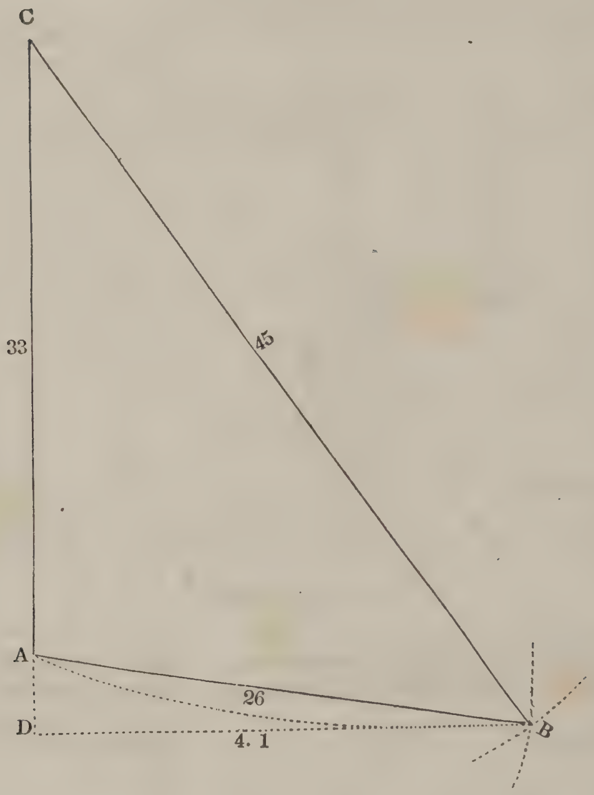
From the logarithm of the dividend,	540	2.73239
Subtract the logarithm of the divisor,	49	1.69020
Quotient is	11.2 =	1.04219
	4	
	12)44 inches.	
	3 ft. 8 inches.	

By Proportion.

Add the logarithm of the second term,	540 inches,	2.73239
To the logarithm of the third term,	28 inches,	1.44716
		4.17955
And subtract the log. of the first term,	343 inches,	2.53529
	12)44.08 =	1.64426
	3 ft. 8 inches.	

Figure 14.

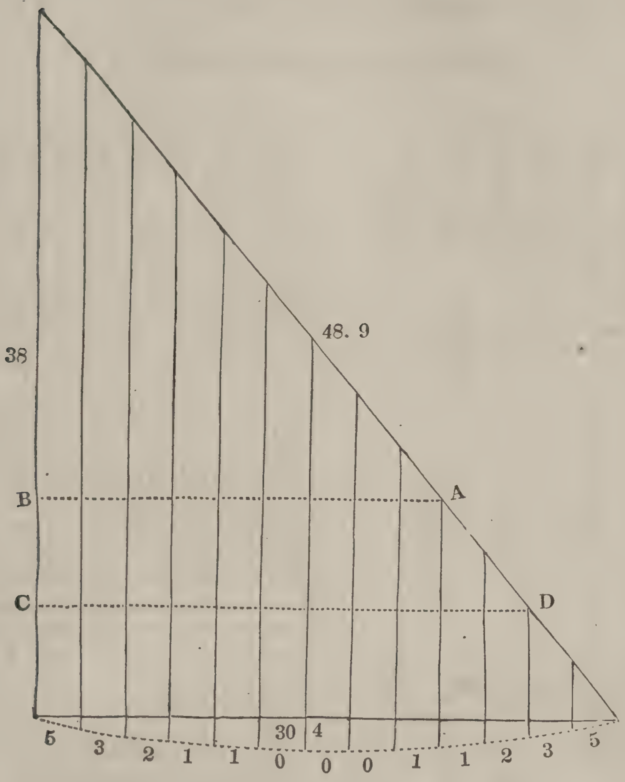
This figure represents a schooner's jib, with a short gore at the clue.



To find the Gore on the foot.

Place one side of a square parallel, or in a line with the after leech; let the other side rest on B. Draw a line as per dotted line in the figure. Take the extent in your compasses from D to A, and this will be the gore on the foot. For cutting the cloths for this sail, see directions, figure 1.

Figure 15.

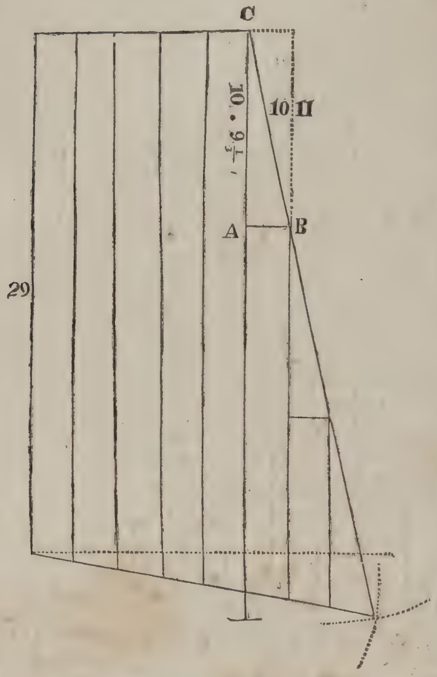


This figure represents a schooner's jib cut square on the foot, which is 30 feet and 4 inches from clue to tack. Presuming the cloth to be 28 inches wide, this sail will require 13 cloths in the foot. Sails of this kind require a small sweep or swell on the foot, in order to prevent the sail rounding upwards when the sheet is hauled aft. The gore, therefore, on the foot, will be most on the first and last cloths, beginning with the longest gore on the first cloth, and diminishing to nothing towards the middle cloth, leaving more or less square cloths in the middle, at pleasure. The longest selvage of the canvass on the foot is towards the stay, and is cut *down* for the first division. In the second division, the shorter selvage will be towards the stay, the gore being cut *up*. In the figure, the three middle cloths are left square; the other cloths are gored so as to give 12 inches sweep.

First trial.	*Second trial.*	*Third trial.*
For 12 in. sweep in 5 cloths.		
12	12	12
—	—	—
5	4	5
4	3	3
3	2	2
2	1	1
1	0	1
—	—	—
15 too much.	10 not enough.	12 required gore, as marked on the foot of this sail.

The line C D represents the foot of the sail, exclusive of the bonnet. A B the reef band; both of which are six feet deep.

Figure 16.—*Topmast-Studdingsail.*



Measure the length of the topmast from the hounds to the heel, for the length of the inner cloth. Cut each cloth with 5 inches gore on the foot. The inner cloth is 29 feet in length, and has 5 cloths in the head and 8 in the foot, which is the usual size for a ship or brig from 280 to 300 tons.

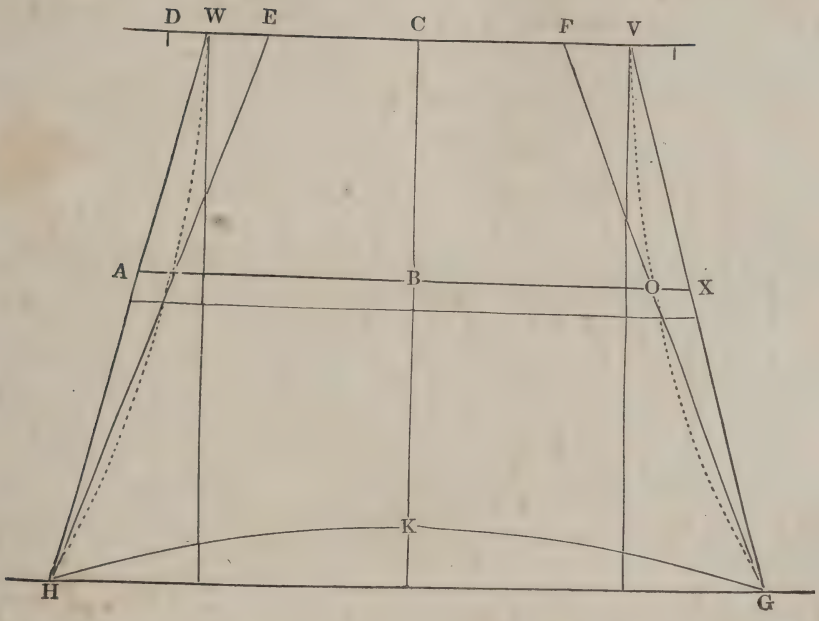
To find the Gore on the Leech.

By cutting the foot with 5 inches gore to each cloth, it must be evident, that the longer selvage to the fifth cloth will be 31 feet, 1 inch; for, the cloths being gored 5 inches each, five cloths are 25 inches, or 2 feet, 1 inch. This, added to the length of the first cloth, will be 31 feet, 1 inch. It is further evident, that the three remaining cloths will give 15 inches, or 1 foot, 3 inches more. This, added to 31 feet, 1 inch, is 32 feet, 4 inches. Now this last number being divided by the three cloths which require goring on the leech, will give the number of feet which are required to find this gore.

32 ft. 4 in.
12
3)388
12)129$\frac{1}{3}$

10 ft. 9 in. Measured from the head of the sixth cloth down on the inner or shorter selvage, and marked as at A. A thread taken to the opposite selvage, as at B, and a line run from B to C, will evidently give the leech-gore for each cloth. And I will again observe, that all the gores, for each and every sail, are thus found.

Figure 18.

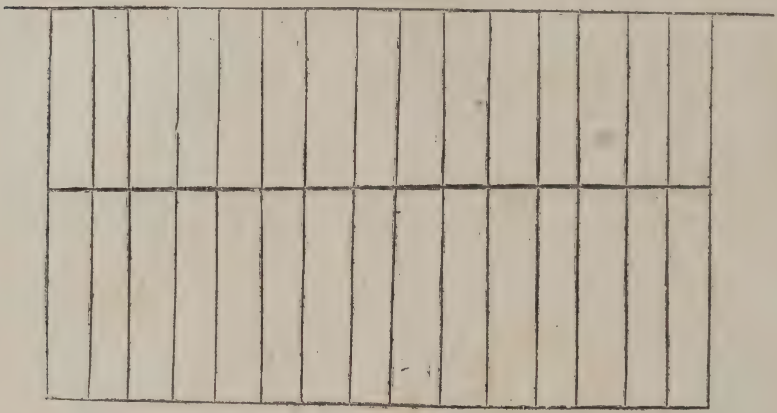


As it has been before observed that a topsail sometimes requires a roaching-gore on the leech (in consequence of the topsail being narrow in proportion to the lower yard,) in order to make the close reef set with a tort band between the lifts ; I think best to notice it more particularly by projecting this figure, and making some remarks on it.

The length of the main-yard is 44 feet, topsail-yard 30 feet, and hoist 29 feet, the foot has three feet gore ; consequently, the line denoting the middle cloth K C, is but 26 feet in length. In making the usual deductions from the whole length of the yards, viz. 7 feet for the lower, and 8 feet for the topsail-yard, the sail would be projected by the lines G V, V W, W H, and H G. Now, it is evident the sail could not be cut with a straight leech-gore ; for, if the extent B X be taken in your compasses, which is half the width of the sail on the close reef, and one foot be placed on C, the other will extend much beyond the mark at D, which denotes the lift on the yard. Now, in order to have a straight gore on the leech, and to have the close reef come between the lifts, the sail must be cut according to the projection, by the lines G F, passing through O, (which denotes the extreme width of the close reef,) F E, E H, and H G. The head in this case would spread but very little more than one half the topsail-yard. Therefore, the leech must be cut with a roaching-gore, as represented by the dotted line G O V.

In sails cut with a roach-leech, the lower gores are longer than the upper ones. This can only be regulated by the judgment of the person who cuts it ; and care must be taken that the whole of the gores do not exceed the depth of the leech. For those gores that are irregular, and likewise the hollow leeches of topsails, &c., no strict rule can be given ; but by drawing on paper the gored side of the sail and delineating the breadth of every cloth by a convenient scale of equal parts, (the larger the better,) the length of every gore may be found with precision. For this purpose, a scale of a half or a quarter of an inch to a foot, should be made use of; any thing less could not be depended on.

Square Foresail.—Fig. 19.

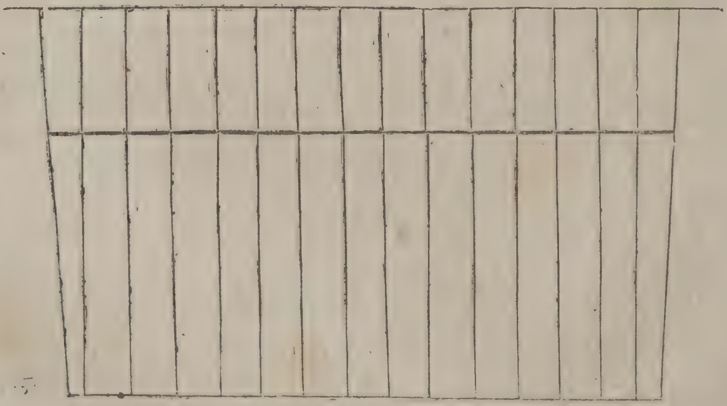


This sail is usually cut square, and, therefore, any remarks on the subject are unnecessary.

However, the fore-yard is sometimes so square, that the sail requires a gore on the leech, as in figure 20, diminishing from the head-earing to the clew ; in this case, it is evident that the reef-earing will come inside of the head-earing. Consequently, the reef-earing must be passed round the head of the sail, and is, therefore, liable to chafe the canvass above the reef. A foresail with a small gore on the leech, similar to the mainsail, will reef much better than either of the others. A sail cut in this manner is to be preferred, as it is reefed with less trouble.

It is the practice with our sail-makers to take in a portion of slack cloth on each side, in roping a sail. They appear to have no particular rule for the number of inches to be taken up in a yard, or foot, in length. You will, therefore, be governed by your own judgment respecting this ; only remember, that canvass cut goring will stretch considerably, but if cut by a thread, little or nothing.

Figure 20.



TO CUT A GANG OF RIGGING.

Every seaman knows, that before a gang of rigging can be cut, the ship or vessel must be carefully projected, and the masts, yards, &c. placed in their relative situations. Figure 41 was projected from the following dimensions:

Length on deck,	100 feet.
Breadth of beam,	26 feet.
Depth of hold,	16 feet.

The preceding rules were consulted for placing the masts, for ascertaining their length, the breadth of the tops, the proportion for the width of the yards, &c.; and the figure projected accordingly from the small diagonal scale.

Rule.—Take from the scale 100 feet, and set it off for the length on deck; divide this length into sevenths; place the foremast one-seventh from the stem; the mainmast three-sevenths from the foremast, and the mizenmast two-sevenths from the mainmast.

The length of the mainmast is two and a half times the ship's beam; the whole length of the mast, therefore, is 65 feet. From this length deduct the depth of the hold, (16 feet,) the length of the mast-head, (10 feet,) and the depth from the rail to the deck, (4 feet,) and you will have the length required, (35 feet.) Set off this length, perpendicular to the rail, from the point denoting four-sevenths of the ship's length; at the rail, draw a line representing the mast; on the end of the last drawn line, draw another line perpendicular to it, on which set off 13 feet for the width of the top, so as to leave at least one half on the after part of the mast; and this will be the length of the mast from the hounds to within 4 feet of the deck. Draw the head 10 feet in length; set off from the hounds 39 feet, for the whole length of the topmast, which is three-fifths the mainmast's length. Draw a line 6 feet below the topmast cap, to represent the cross-trees, which make equal to 4 feet on the after part of the mast. Take half the length of the topmast for the length of the topgallantmast.

The royalmast, including the pole, is about two-thirds the length of the topgallantmast.

The main-yard is twice the ship's extreme breadth,	equal to 52 feet.
Maintopsail-yard, two-thirds of the main-yard,	" " 35 feet.
Maintopgallant-yard, two-thirds of the maintopsail-yard,	" " 23 feet.
Royal-yard, two-thirds the length of the topgallant-yard,	" " 15 feet.

RIGGER'S RULE FOR MEASURING AND CUTTING THE RIGGING.

ILLUSTRATED BY FIGURES 41 AND 43.

Starboard Swifter.

Set off half the ship's beam, 13 feet, from the point in the middle of the mainmast, aft, and mark it. Draw a line from this mark to the centre of the mainmast, at the hounds. Take the extent of this line in your compasses, which will be found equal to 37 feet, nearly. As the swifter is served, and will not stretch so much as the other shrouds, it will be necessary to add to this length six inches; and with five shrouds on a side, the pendant will be the other leg to the swifter. You must allow one foot and a half for each leg of the eye, in addition, as follows:

	ft.	
Extent from the hounds to the lower dead-eye, is	37	0
Add six inches to the swifter,		6
Add eighteen inches for one leg of the eye,	1	6
Whole length of the swifter to the middle of the eye on the mast,	39	0
Mark this length on your rope; from this mark set off eighteen inches for the other leg of the eye,	1	6
Set off six feet for the pendant,	6	0
Whole length of the swifter and pendant,	46	6

Cut the rope 46 feet, 6 inches in length. Double the rope, so as to have the 39 feet mark exactly in the middle of the eye; bring the two legs together; measure down from the middle of the eye, two feet, nine inches, and mark it. Pass your seizing from this mark down towards the dead-eye. This shroud goes over the mast-head, on the starboard side, with the pendant aft.

Larboard Swifter

Is measured, marked, and cut as the former; only observe to add the diameter of the rope to its length. The seizing for the eye, is placed the diameter of the rope farther down towards the dead-eye. In placing the swifter over the mast-head, let the pendant be aft.

Second and third Shrouds, (Starboard.)

Measure the second shroud by the length of the larboard swifter from the middle of its eye, less six inches. Add to this length twice the diameter of the rope, and mark it. Measure the other leg, or third shroud, the same length as the second, and add three inches to its length. The seizing for the eye is placed the diameter of the rope farther down than the last seizing.

Second and third Shrouds, (Larboard,)

May be cut by the last pair; only observe to make proper allowance for the diameter of the rope.

Fourth and fifth Shrouds, (Starboard.)

Measure the forward leg by the after leg of the last pair, from the middle of the eye, and add three inches to its length. Allow for diameter, and mark the middle of the eye. The after leg must be four inches longer than the forward leg.

Fourth and fifth, (Larboard.)

Measure by the last pair, and allow for diameter.

Figure 43 represents the rigger's method of ascertaining the lengths of the other shrouds by the swifter.

The legs are stopped together where the seizing is intended to be placed. The swifter is then straightened on the floor of the loft, and a line drawn six inches above its lower end. Another line is then drawn at the upper part of the eye, as in the figure. The swifter for the opposite side of the mast is then measured by it, the eye being formed by the eye of the first swifter, in such manner that the middle of the bite of the rigging shall be its diameter, above the middle of the eye of the first swifter, as in the figure. The legs are then stopped together directly over the before-mentioned stop, and cut.

In measuring for the second and third shrouds, the end of the rigging is placed on the lower line, and measured by the swifter, the eye being formed by the eye of the second swifter, so as to have the middle of the bite of the rigging its diameter, above the middle of the eye of the last cut swifter. The legs are then stopped together directly over the other stops, and the after leg cut, three inches below the mark on the floor. The second pair, opposite, are cut the same length, allowing for the diameter of the rope, as before.

Continue so to do, until you have the number of shrouds required ; observing to place each pair of shrouds at the eye, its diameter above the eye of the last cut shroud, and cutting the ends as much below the mark as required, and stopping the eyes of each, respectively, one above the other in a line.

By proceeding in this manner, the necessary allowance will be made in placing the shrouds over the mast-head, for the diameter of the rope, as they rise one above the other. (See fig. 43.)

Before we proceed any farther, I will endeavor to show how the length of each shroud may be found, to a great degree of accuracy. Let fig. 42 represent the mainmast of fig. 41 ; the side A, a view of the mainmast as seen from the after part of the ship ; let us suppose the mainmast to be perpendicular to the deck, and we shall have its length, 35 feet for one side, and half the breadth of beam, 13 feet for the other to find the angle a v C, and hypothenuse, or swifter.

It is thus stated by Case 4, Trigonometry, to find the angle a v C.

As the perpendicular C v 35 feet,	1.54407
Is to radius,	10.00000
So is the base C a	1.11394
To the tangent of angle a v C 20° 22′	9.56987

To find the Hypothenuse, or Swifter.

As radius	10.00000
Is to the length of the mast, 35 feet,	1.54407
So is the secant of a v C 20° 22′	10.02804
To the hypothenuse or swifter, $37\frac{31}{100}$	1.57211

This supposes the breadth of beam at the rail, or lower dead-eye, to be the same as the breadth on deck.

I will now show the principle on which fig. 42 is projected. The points a b c d e represent the five dead-eyes to the lower rigging ; the lines C a, C b, C c, C d, C e, the distance from the centre of the mast C to each dead-eye ; (supposed to be two feet distant from each other ;) the arch D E being described about the centre C, for the purpose of finding the angles. But, as this projection is on so small a scale, I will refer you to fig. 44, which is projected from a scale of a tenth of an inch to a foot. Now, to project this figure, proceed as follows :—Draw the line C E, which make equal to 35 feet, for the length of the mast from the hounds to within four feet of the deck. Draw C D, at pleasure, perpendicular to C E, on which set off 13 feet, for half the ship's beam. Draw the line F G perpendicular to C D, on which set off the distance between the dead-eyes. Draw the lines from C to the points on F G, with the extent of each line respectively in your compasses, describe an arch cutting the line C D, as in the figure. Draw the lines from E to the points on the lines C D, for the five shrouds. Take the distance from the points on the line C D to E, and you will have the length of each shroud respectively, on the supposition that the mast is perpendicular to the deck. This method will answer every purpose, for most full-built vessels; as a small deviation in the situation of the mast from a perpendicular line, will make but a very little difference. But should the mast rake much, proper allowance should be made. From the above hints, any one who is acquainted with trigonometry will find it easy to ascertain the exact length of the shrouds, for a mast in any position, by means of a perpendicular, let fall from the point denoting the hounds of the mast.

Having shown how the length of the shrouds are found by projection, let us demonstrate the principle by Case 4, Trigonometry.

To find the length of the third shroud, it will be necessary for us to find the length of the leg C c. (Fig. 42 and 44.)

To find the angle a C c.

As half the breadth of beam, a C = 13 feet,	1.11394
Is to radius,	10.00000
So is the distance between the first and third dead-eye, a c = 4 feet,	0.60206
To tangent of angle a C c, 17° 6′	9.48812

To find the hypothenuse C c.

As radius	10.00000
Is to half the breadth of beam, 13 feet,	1.11394
So is the secant of angle a C c,	10.01964
To the leg C c, 13 feet $\frac{60}{100}$, or $\frac{3}{5}$ of another foot,	1.13358

From this we will proceed to find the length of the third shroud, fig. 44.

As the distance on the mast to the hounds, 35 feet,	1.54407
Is to radius,	10.00000
So is the distance from the centre of the mast to the 3d dead-eye, 13.60,	1.13354
To the tangent of the angle at E, 21° 14′	9.58947

By making use of this angle, it will be to find the hypothenuse or third shroud.

As radius	10.00000
Is to the length of the mast, 35 feet,	1.54407
So is the secant of angle E 21° 14′	10.03053
To the hypothenuse or third shroud, 37 feet $\frac{55}{100}$	1.57460

You will observe that the side A (fig. 42) is represented by fig. 44; and, in referring to it, you must consider the letters at the points, a b c, &c. to be the same. The only difference is, that one was projected from a scale of 20, and the other from a scale of 10 parts to the inch.

By logarithms we find the side C c, 13 feet $\frac{3}{5}$, or 7 inches of another foot, nearly ; the extent from C to the third dead-eye, (fig. 44,) will be found equal to 13 feet, and a little more than half of another foot.

And the length of the third shroud is found to be, by logarithms, 37 feet $\frac{55}{100}$, or one half of another foot, nearly ; and the extent from E to the point representing the third dead-eye on C D, will be found equal to 37 feet, and rather more than one half another foot. Hence we have proved that the projection can be depended on, and is sufficiently correct for any purpose, whether for vessels of the first rate, or those of a smaller class. The length of every shroud and back-stay may also be found in this manner. The side B, fig. 42, represents the same view of the mainmast as in fig. 41, each shroud being drawn from the mast to the rail, or upper dead-eye. Now, from a bare view of the figure, it must be evident that the angle formed by the shrouds and mast, in this representation, with the exception of the first, will be by far too great. Consequently, the length of the rigging cannot be found accurately, and a projection of this kind should not be attempted.

Main-Stay.

Take the extent from the hounds of the mainmast to the dead-eye in the hawse-piece. Add to this length the length of the mainmast-head. Raise the mousing twice the length of the mast-head from its end, for the collar of the stay. Turn in your dead-eye so as to have the end of the stay about three and a half feet from its lower part.

Maintopmast Rigging.

Take the extent from the hounds of the topmast to the dead-eye on the top, for the forward shroud. Add to its length three inches. Cut the second shroud by this, less three inches. Cut the third shroud the same length as the forward shroud. The eye of the first shroud is eighteen inches from the middle to the seizing. Allow for the eye as in the lower rigging.

Maintopmast Back-Stays.

Take the extent from the hounds of the topmast to the lower dead-eye, less two feet. Allow for the eye as before directed. Turn in the dead-eye so as to have the end of the stay two and a half feet from its lower part. The eye is the same as in the topmast rigging.

Maintopmast Stay.

Take the extent from the hounds of the topmast to the fore cap, and the extent from the cap to within four feet of the deck. Add to this length seven feet. Set off fourteen feet from the end of the stay, and mark it. Tuck your ends through the rope at this mark, and you will have a collar of fourteen feet circumference, nearly. Turn the dead-eye in at pleasure.

Maintopgallant Rigging.

Take the extent from the hounds of the topgallant-mast to the cross-trees, less six inches. Cut each shroud the same length.

Maintopgallant Stay.

Take the extent from the hounds of the topgallant-mast to the foretopmast cap, and from the cap to within three feet of the foretop, if you intend the stay shall set up in the top, or by a gun-tackle purchase on deck.

Maintopgallant Back-Stays.

Take the extent from the hounds of the topgallant-mast to the lower dead-eye, less six feet.

Fore-Stay.

Take the extent from the hounds of the foremast to the bowsprit at the lower heart, less two feet. (The lower heart is two-thirds the length of the bowsprit, from the knight-heads.) To this length add the length of the mast-head, and raise the mousing the same distance from the end as in the main-stay. Turn in the upper heart so as to have the end of your stay three feet and a half from its lower part.

Foretopmast-Stay.

Take the extent from the hounds of the topmast to the cleats (or bea) on the bowsprit, and from the cleats to the knight-heads, less four and a half feet. The eye is of the same length as the maintopmast-stay, for which you must allow. Turn in the dead-eye so that the end of the stay shall be two and a half feet from its lower part. The standing-stay is on the starboard side of the bowsprit.

Foretopmast-Back-Stays.

Cut and fitted the same as the main.

Jib-Stay.

Take the extent from the hounds of the topmast to the sheave-hole in the jib-boom, from thence to the strap of the fore-stay on the bowsprit. The eye must be the same size as in the foretopmast-stay.

Foretopgallant-Stay.

Take the extent from the hounds of the topgallant-mast to the jib-boom end, from thence in on deck.

Flying-Jib-Stay.

Take the extent from the hounds of the topgallant-mast to the sheave-hole in the flying-jib-boom end, from thence into the heart of the fore-stay.

These extents being taken from the scale by which your figure was projected, will give the required length of each shroud, back-stay, &c. But the allowances for the eyes must be made as before directed. I have supposed the masts, tops, cross-trees, &c. to be drawn with a single line, as in figure 44. No attention need be paid to the thickness of the spars, or mast-heads, in projecting a figure of this kind, as the necessary allowance to the length of each rope, for the eyes, &c. can be made without this trouble.

The yards in figure 41, are supposed to be hoisted up. Now, in order to find the length of your running rigging—say the maintopsail clew-line—take the extent from the quarter-block on the topsail-yard to the lift on the main-yard.

Take double this length, as found on the scale. Then take the extent from the quarter-block to the rail down the mainmast, and you will have the length required. In the figure, this rope may be represented to pass through the lubber-hole, but it is quite unimportant.

In this way the length of all the running rigging may be ascertained.

To find the Length of the Lifts.

Place the yards as in figure 42, and measure for their length as for any other rigging.

Straps on the Bowsprit are placed as follows:

Strap to the heart of the fore-stay, two-thirds out on the bowsprit, from the knight-heads.

Strap of the inner bob-stay, six inches without the strap of the fore-stay heart.

The outer bob-stay dead-eye is within three or four inches from the inner part of the bowsprit-cap.

Strap of the bowsprit-shrouds, close to the strap on the outside of the inner bob-stay.

The size of the Rigging for a Ship of about 300 *tons, is usually as follows:*

Main shrouds, 7 inches.
Maintop-mast shrouds, 4½ inches.
Maintopgallant-mast shrouds, 3½ inches.
Main-stay, 7½ inches.
Maintopmast-stay, 6¼ inches.
Maintopmast back-stays, 5½ inches.
Maintopgallant-stay, 3½ inches.
Maintopgallant back-stays, 3¾ inches.

The foretopmast and topgallant rigging the same size as the main, excepting the head-stays.

Fore-stay, 8½ inches.
Foretopmast-stays, 5¾ inches.

The inner bob-stay the same size as the back-stays.

Mizzen Rigging.

Mizzen shrouds, 5 inches.
Mizzen stay, 6 inches.
Topmast shrouds, 3½ inches.
Topmast stay, 5¼ inches.
Topmast back-stays, 5 inches.
Topgallant shrouds, 2½ inches.
Topgallant back-stays, 3 inches; topgallant stay, 2¾.

In measuring for the topgallant rigging, as before directed by the figure, no allowance need be made for the eyes. All rigging should be well stretched before it is measured and cut.

The strap for the mizzen stay on the mainmast is generally about 10 feet from the deck.

TABLE OF CORDAGE,

Showing how many fathoms, feet, and inches of a rope, of any size, (not more than 14 inches,) make a hundred weight, with the use of the table.

Inches.	Fathoms	Feet.	Inches.	Inches.	Fathoms.	Feet.	Inches.	Inches.	Fathoms.	Feet.	Inches.	Inches.	Fathoms.	Feet.	Inches.
1	486	0	0	4¼	26	5	3	7½	8	4	0	10¾	4	1	8
1¼	313	3	0	4½	24	0	0	7¾	8	3	6	11	4	0	3
1½	216	3	0	4¾	21	3	0	8	7	3	6	11¼	3	5	7
1¾	159	3	0	5	19	3	0	8¼	7	0	8	11½	3	4	1
2	124	3	0	5¼	17	4	0	8½	6	4	3	11¾	3	3	3
2¼	96	2	0	5½	16	1	0	8¾	6	2	1	12	3	2	3
2½	77	3	0	5¾	14	4	6	9	6	0	0	12¼	3	2	1
2¾	65	4	0	6	13	3	0	9¼	5	4	0	12½	3	2	0
3	54	0	0	6¼	12	2	0	9½	5	2	0	12¾	2	7	8
3¼	45	5	2	6½	11	3	0	9¾	5	0	6	13	2	5	3
3½	39	3	0	6¾	10	4	0	10	4	5	0	13¼	2	4	9
3¾	34	3	9	7	9	5	6	10¼	4	4	1	13½	2	4	0
4	30	1	6	7¼	9	1	6	10½	4	2	2	13¾	2	3	6
												14	2	2	1

USE OF THE TABLE.

At the top of the table marked inches, fathoms, feet, inches, the first column is the thickness of the rope in inches and quarters, and the other three the fathoms, feet, and inches that make up 100 weight of such a rope.

Rule.—Enter the table in the column marked inches, and take out the corresponding number from the right hand column, marked fathoms, feet, and inches, and you will have the weight required. Let it be required to find how much of 10 inch rope will make a hundred weight, opposite to 10 in the fifth column you will find 4 . 5, which shows there will be 4 fathoms, 5 feet, to make up one hundred weight.

A TABLE

Showing the weight of any cable or rope of 120 fathoms in length, and for every half inch, from 3 to 24 inches in circumference.

Inch.	Cwt. qrs.	Inch.	Cwt. qrs.	Inch.	Cwt. qrs.	Inch.	Cwt. qrs.	In.	Cwt. qrs.
3	2 . 1	7	12 . 1	11	30 . 1	15½	60 . 0	20	100 . 0
3½	3 . 0	7½	14 . 0	11½	33 . 0	16	64 . 0	20½	105 . 0
4	4 . 0	8	16 . 0	12	36 . 0	16½	68 . 0	21	110 . 1
4½	5 . 0	8½	18 . 0	12½	39 . 0	17	72 . 1	21½	115 . 2
5	6 . 1	9	20 . 1	13	42 . 1	17½	76 . 2	22	121 . 0
5½	7 . 2	9½	22 . 2	13½	45 . 2	18	81 . 0	22½	126 . 2
6	9 . 0	10	25 . 0	14	49 . 0	18½	85 . 2	23	132 . 1
6½	10 . 2	10½	27 . 2	14½	52 . 2	19	90 . 1	23½	138 . 0
				15	56 . 1	19½	95 . 0	24	144 . 0

USE OF THE TABLE.

The first column, marked for inches, is the thickness or the circumference of the cable to every half inch, from 3 to 24 inches; the second, marked cwt. qrs. for the hundred weights and quarters that it will weigh, if 120 fathoms in length.

Rule.—Seek in the column marked inches for the given size of the cable or rope, opposite to which, in the right hand column, you will find the weight required.

Example 1.

Let it be required to find the weight of a cable 24 inches circumference, opposite 24 in the column marked inches, is 144, which shows that 120 fathoms of 24 inch cable will weigh 144 hundred weight, and so with other sizes and any quantity of less length will weigh in proportion.

Example 2.

A ship riding at anchor in a gale of wind, but striking adrift, it was thought safest to cut the cables and make sail, in consequence of which she lost 75 fathoms of 16 inch, and 60 fathoms of 14 inch cable, what must they be valued at, in calculating the average, new cordage being then $12 per cwt. ?

Calculation.

120 fathoms of 16 inch cable is	64 cwt.	120 fath. 14 inch. is	49 cwt.
60 " " " "	32	60 " " " "	24½
15 " " " "	8		
75 fathoms, weighing	40		
60 " "	24½		
	64½ cwt. at $12 per cwt.		$774.00
	one-third deduct for new,		258.00
			$516.00 Ans'r.

A **Table** of the number of threads and the weights of cables of different circumferences.

All cables ought to be 120 fathoms in length ; for which purpose the threads or yarns must be 180 fathoms, inasmuch as they are diminished one-third in length by twisting.

The number of threads, also, of which each cable is composed, being always proportioned to its length in thickness, the weight and value of it are determined by this number. Thus a cable of 10 inches circumference ought to consist of 485 threads, and weigh 1940 lbs., and on this foundation is calculated the following table :

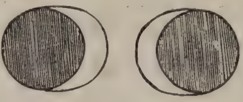
Inches.	Threads.	Pounds.
9	393	1527
10	485	1940
11	598	2392
12	699	2796
13	821	3284
14	952	3808
15	1093	4372
16	1244	4976
17	1404	5616
18	1574	6296
19	1754	7016
20	1943	7772

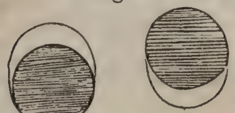
TO ADJUST THE SEXTANT.

The first thing to be attended to will be to set the index-glass perpendicular to the plane of the instrument. Move the index until the 0 on the vernier (or index) cuts about 60 degrees. Hold the index-glass near the eye, and see if the reflected arch appear exactly in a line with the arch seen direct. If they do, the glass is perpendicular; but if they do not, the error must be rectified by loosening the one screw and tightening the other, on the base back of the index-glass: continue so to do, until the true and reflected arches are seen in one straight line, and this adjustment is perfect.

You must observe to make this adjustment in such a manner that the index-glass shall be perfectly firm on the instrument, so that it cannot be moved by hand; and when once so adjusted, it may remain for years.

*The next adjustment is to make the horizon-glass perpendicular with the index-glass.** Make choice of such screen horizon-glass or glasses, to defend the eye from the sun, as will make a pleasant shade for the eye. Turn down such screen-glass or glasses, as you intend using, to measure the distance between the sun and moon. Now, be careful to observe, that these glasses must not be shifted until you have finished the adjustment of the instrument throughout. Set the index on 0, look through the telescope at the direct image of the sun, and if you see but one image, round and well defined, the sextant wants no adjustment; but should there be a false limb either on the one side or the other, thus, you must move the tangent-screw underneath the horizon-glass, until but one image is perceived, and this adjustment is complete.—However, should the parallelism of the horizon-glass be imperfect, you would perceive a portion of the reflected image of the sun, either above or below the true image, thus:





To make this adjustment, turn the lever to the horizon-glass, until the reflected covers the true image, and it is done.

As many instruments are not provided with an adjusting lever to the horizon-glass, I shall proceed to show how this is to be found, which we shall call the *Index Error.* Move the index forward until the upper limb, seen by reflection, coincides with the lower limb seen directly; then bring the lower limb, seen by reflection, to coincide with the upper limb, seen directly. If both these measures are taken on the same side of 0 on the arch, half their *sum* will be the index error, *additive,* if to the right of 0,—*subtractive,* if to the left. But if one of the measures be taken to the right, and the other to the left of 0, half their *difference* will be the index error; which will be additive when that diameter, taken to the right, exceeds that taken to the left, otherwise subtractive.

In reading off the back arch, observe that the degrees on the arch of most sextants now in use, are divided into 15 miles, and the miles on the index extend from 0 to 15. These are divided into 15 seconds each. Next to them, the most common divisions are, 20 miles on the arch to a degree; and the miles on the vernier or index, extending from 0 to 20, and these, divided into 30 seconds, (or half a mile.) Let us suppose you bring the lower limb of the sun, by reflection, to coincide with the upper limb, seen direct.

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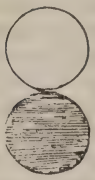
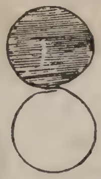
* That is, perpendicular to the plane of the instrument.

Thus :



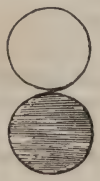
And should find the 0 on the index, to stand between the first 20 and 40 miles to the right hand of 0 on the arch. Now in order to find the whole number of miles, call 20 to the left hand on the index, 0 ; and 19 one ; 18 two; 17 three ; 16 four ; 15 five ; 10 ten ; 5 fifteen, &c., and it is evident, by *reversing* the index in this manner, that whatever mile on the index is cut by a division on the arch, will be the number of miles from 0 on the arch to 0 on the index. Let us suppose that 5 was the number on the index cut by a division on the arch. Now, by reading from left to right, counting 20,0, it is evident that 5 shows the number of miles to be 15. This, added to the 20, gives 35, being the sun's diameter measured on the back arch, or to the right of 0. Having thus found the sun's diameter on the back arch, move the index forward until the upper limb, seen by reflection, coincides with the lower limb, seen direct.

Thus :

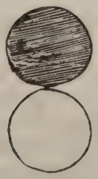


Let us suppose you find 31 min. and 30 sec. to the left of 0 on the arch. Then, it is evident, there is an error in the instrument of half the difference between the two measurements ; and this error is additive, because that taken to the right of 0, on the arch, exceeds that taken to the left. Had the angle been the same, each way, the instrument would not have had any error.

The measures would stand thus :



Back arch 35′ 00″



Fore arch, 31 30

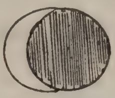
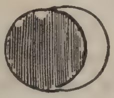
2)3 30

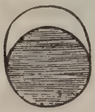
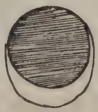
1 45

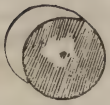
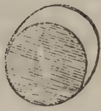
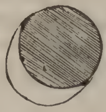
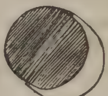
Additive—which must be used as a constant quantity, and added to all observed distances or altitudes.

As I before observed that you should be careful not to shift the glasses while adjusting, and to use the same screen-glass or glasses which you observed by in the day time, I shall now give my reasons for it. In most instruments which I have examined, I have found the surfaces of the colored glasses more or less unequal, which gives them a refractive power, by which the reflected object is thrown from its true position. Now, by finding the index error by the glass or glasses used in measuring the distance, it must be evident that this error is shown on the index, which ever way it may be. Therefore there can be no necessity for ascertaining the error in these glasses alone, which is somewhat difficult to come at by the sun, as some of them make the reflected image very dim, while others are not a sufficient screen for the eye, the sun being too powerful. As the light red and green glasses are used in measuring between the stars and moon, you may find the index error by the moon, when full, if the limb be well defined. Should there be a difference between the index error thus found, and that found by the sun, it is evident that this difference arises from the unequal surfaces of the colored glasses.* In this case, you must be careful to apply the error to the observed distance, according to the glasses used; that is, if you use the green glass in measuring, apply the error as found by that glass; if the light red, apply the index error as found by that glass, &c.

The annexed figures will enable any one to ascertain how the horizon-glass stands with the index-glass.

Fix the index on 0, look directly to the sun, and if the sun appears thus,  or thus,  the horizon-glass is not perpendicular with the index-glass.

If thus,  or thus,  the horizon-glass is not parallel with the index-glass.

If thus,   or thus,   then the horizon-glass is neither parallel nor perpendicular to the index-glass.

In adjusting the instrument you must use the inverted telescope, which must be parallel to the plane of the instrument. (See directions in the Epitome to Navigation, for making it so.) I would also recommend its use in measuring the distance, particularly on long distances, as, by a little practice, it can be used with a great degree of ease.

Caution to be observed in taking the Distance.

If the direct telescope is used, you should be particular to bring the limbs of the objects as near the centre of the telescope as possible. The plane tube should never be used for a Lunar Observation, as no manner of dependence can be placed on it. In reading off the Distance and Altitudes, it is highly important that you observe, carefully, whether they are correctly set down on the slate by the person entrusted with that charge.

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* If the instrument in other respects holds its adjustment.

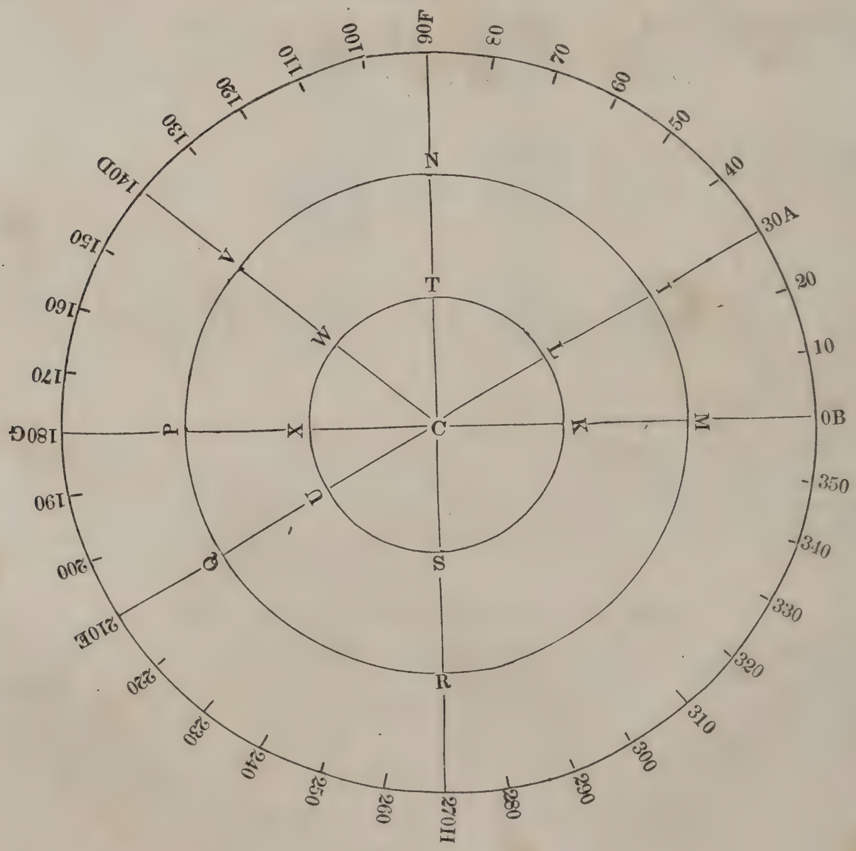
Those who take the altitudes should be cautioned to tighten the thumb-screw to the index of their quadrant, before it is taken from their eye, as the index might move by its own weight. If it be night, and the horizon cannot be depended on for measuring the altitudes, they can be calculated to a very great degree of accuracy ; and I should much rather depend on the altitudes found by calculation than observation.

TRIGONOMETRY.

A knowledge of Trigonometry is necessary to a complete and intelligent acquaintance with the science of navigation. It gives to the navigator who is well versed in its principles, a very decided advantage, in many cases, over one who is ignorant of them. It is of great use in ascertaining the heights and distances of objects at sea. Also in surveying coasts and harbors, and in projections of all kinds. It is a great assistant in the art of sail-making and cutting rigging, as well as in constructing and correcting tables for the various purposes of a seafaring life. And the seaman, who has made himself well acquainted with this science, is prepared for many emergencies where he would otherwise be wholly at a loss what to do.

The scales which were made use of in projecting the figures, were the larger and smaller diagonal, (for a description of which see page 52.) The scale of Chords, from which the angles were measured or set off, will be found on the plane scale between the lines marked Rum. and Sin. The figures being laid down precisely as they were measured, the learner will derive considerable advantage by comparing his own projections with them, thereby testing the correctness of his own work. And should they be found to agree, he will have the satisfaction of knowing that he is correct.

Figure 21.



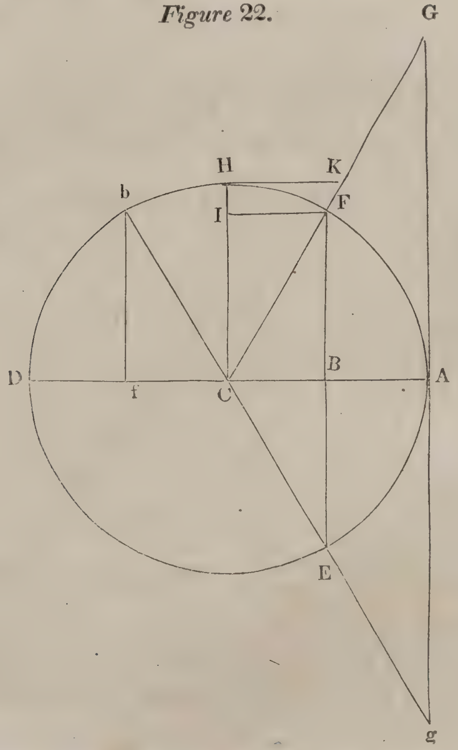
1. The periphery or circumference of every circle is supposed to be divided into 360 parts, called degrees; each degree into 60 equal parts, called minutes; and each minute into 60 equal parts, called seconds, &c.

2. Any part of the circumference of a circle is called an arch, and is said to be the measure of the angle at the centre, which it subtends; thus, A B, I M, L K, are arches of 30 degrees; (fig. 21) F B, N M, T K, are arches of 90 degrees; D B, V M, W K, are arches of 140 degrees. Hence, A C B, I C M, L C K, are angles of 30 degrees; F C B, N C M, T C K, are angles of 90 degrees; D C B, V C M, W C K, are angles of 140 degrees. Therefore, since all circles are divided into the same number of degrees, adegree is not to be considered a quantity of any determinate length, as so many inches, feet, miles, &c., but is always to be reckoned as being the 360th part of the circumference of any circle, whether large or small. Hence it must be evident, that the angle does not depend at all on the length of the legs. For, if we suppose C (fig. 21) to be the Earth's centre, L K a portion of its surface, I M a portion of the Moon's orbit, and A B the starry heavens, it does not alter the angle in the least.*

3. The difference of any arch from 90° (or a quadrant,) is called its complement; thus F A is the complement of the arch A B; (fig. 21) and its difference from 180° (or a semicircle,) is called its supplement; thus G D F A is the supplement of the arch A B.

4. The radius of a circle is a line drawn from the centre to the circumference, or it is that line which is taken between the points of the compasses to describe the circle; as C B is the radius of the circle B A F D G, &c. C M is the radius of the circle M I N V P, &c., and C K is the radius of the circle K L T W X, &c. All radii of the same circle are equal.

Figure 22.



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* As we shall have occasion to bear this in mind when we come to treat on the right ascension of the meridian, &c. &c., I thought best to notice it particularly here.

5. The chord or subtense of an arch is a right line drawn from one extremity of an arch to the other; thus, the right line F E is the chord or subtense of the arch F A E or F D E.

6. The sine or right sine of an arch is a line drawn from one extremity of the arch, perpendicular to the diameter, passing through the other extremity. Thus, B F is the sine of the arch A F or F D.

7. The versed sine of an arch is that part of the diameter intercepted between the sine and the circumference. Thus, A B is the versed sine of A F; and D B of D F.

8. The co-sine of an arch is that part of the diameter intercepted between the centre and sine, and is equal to the sine of the complement of that arch. Thus, C B or I F is the co-sine of the arch A F or the sine of its complement F H.

9. The tangent of an arch is a right line touching the circle in one extremity of that arch, produced from thence till it meets a right line passing through the centre and the other extremity. Thus, A G is the tangent of the arch A F.

10. The secant of an arch is a right line, reaching, without the circle, from the centre to the extremity of the tangent. Thus, C G is the secant of A F.

11. The co-tangent of an arch is the tangent of the complement of that arch. Thus H K is the tangent of the arch H F. or the co-tangent of the arch A F.

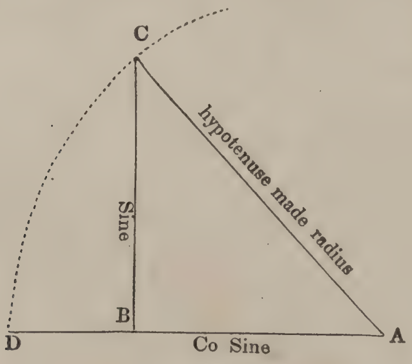
12. The co-secant of an arch is the secant of the complement of that arch. Thus, C K is the secant of the arch H F, or the co-secant of the arch A F.

13. The sine of any arch A b, greater than 90°, is equal to the sine of another arch A F, as much below 90°; and its co-sine C f, tangent A g, and secant C g, are also respectively equal to the co-sine tangent and secant of its supplement A F; but these last, as they fall on opposite sides of the points C and A, from that where they have their origin, are called *negative*.

Right-angled or Plane Trigonometry.

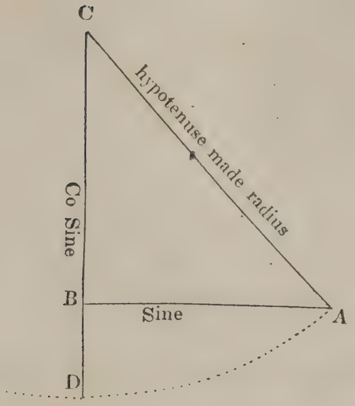
In every plane triangle there are six parts, viz. three angles and three sides, any three of which being given, except the three angles, the other three can be found by various methods. We will, however, confine ourselves to the scale and compasses, and the calculation by logarithms, which is by far the most accurate.

Proposition I.—*Figure* 23.



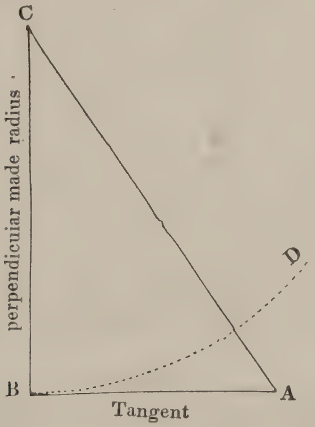
In any right-angled triangle, as A B C, if the hypothenuse A C be made radius, and the arch C D be described about A as a centre, B C will be the sine of the angle at A, and A B its co-sine.

Figure 24.



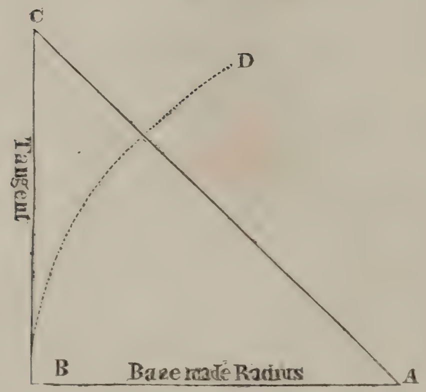
But if the hypothenuse A C be made radius, and the arch A D be described about C as a centre, then will A B be the sine of the angle at C, and B C its co-sine, (or co-sine of the same angle.)

Proposition II.—*Figure* 25.



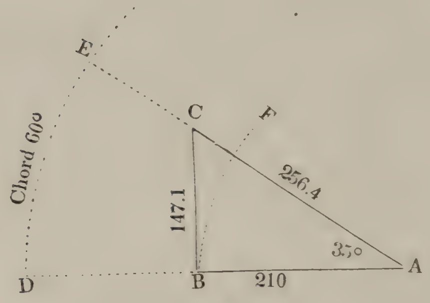
If the leg B C be made radius, and the arch B D be described about C as a centre, then will A B be the tangent of the angle at C, and the hypothenuse the secant of the same angle.

Figure 26.



But if the leg A B be made radius, and the arch B D be described about A as a centre, then will B C be the tangent of the angle at A, and the hypothenuse A C the secant of the same angle.

CASE I.—*Figure* 27.



Given the base A B 210 miles; and the angle at A, opposite the side B C, 35°; to find the perpendicular B C and hypothenuse A C.

By Projection.

Draw the base line A B at pleasure; on which set off 210 miles from the lesser diagonal scale. On B erect the perpendicular B C. With the chord of 60 in your compasses, and one foot on A, describe the arch D E. Take 35° in your compasses from the same scale of chords, and set it off from D to E. Join A C continued to E, as in the figure, and it is done. For, A C being measured on the same scale that A B was, will be found equal to $256\frac{4}{10}$ miles; and B C 147.1.

REMARKS.

It must be evident, from what has been said, that the base A B being made radius, the leg B C is the tangent of the angle at A. The name of the side B C, therefore, is at once known by describing the arch B F on A, as a centre, with the extent of A B (210) in your compasses. It is also known by the arch gradually falling inside of the perpendicular B C. Had the perpendicular been made radius, and its extent been taken to describe an arch with one foot on C, then A B would be the tangent of the angle at C, 55°. Now, all three angles in any right-angled triangle, are equal to 180°; and one of them, in all cases, is equal to 90°. Hence the sum of the other two must be equal to 90°. Therefore, if one angle be known, the other is found by subtracting the known angle from 90°. In the present case, the given angle is 35°; consequently, if this be subtracted from 90 degrees, there will remain 55°, which is the angle A C B; and C B A is a right angle, or 90 degrees, B C being perpendicular to A B.

By Logarithms.

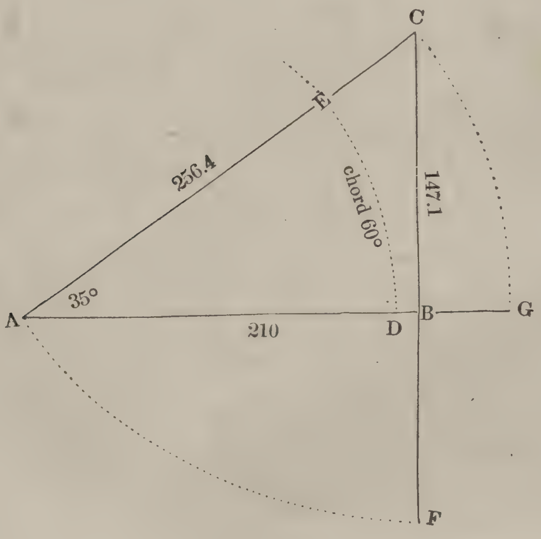
Making the base radius, to find the perpendicular B C. The proportions are as follows:

As radius 45°,	10.00000
Is to the base A B, 210 miles,	2.32222
So is the tangent of angle A, 35°,	9.84523
To the perpendicular B C, 147.1 miles =	2.16745

In working by logarithms, you must remember that the logarithm of the first term is to be subtracted from the sum of the logarithms of the second and third terms; the remainder is the logarithm of the sought fourth term.

When the first term is radius, the logarithm being 10.00000, you need only reject 10 in the index, as in the above example.

CASE II.—*Figure* 28.



We will now change the position of the triangle, and make the hypothenuse radius, to find the base and perpendicular.

By Projection.

Draw the line A B, at pleasure. With the chord of 60 in your compasses, and one foot on A, as a centre, describe the arch D E. Take from the same scale of chords, 35° in your compasses, and set it off from D to E. Draw the line A C, which make equal to 256.4, passing through E. From C let fall the perpendicular C B, and it is done. C B will be 147, nearly; and A B 210. The measures of the sides were taken from the large diagonal scale, in order to have the chord of 60 fall within the perpendicular B C.

Remarks on Figure 28.

If the extent of the hypothenuse A C be taken in your compasses, and one foot on C, as a centre, the arch A F be described, it is evident that A B is the sine of the angle at C. But if the arch C G be described with the same extent in your compasses, with one foot on A, as a centre, B C is evidently the sine of the angle at A. Hence the arches C G and A F being described by the length of the hypothenuse, both arches are outside the legs B C and A B; and from this circumstance, the sines are as readily distinguished as the tangents are by the arches gradually falling inside of the two legs. We therefore have the distinguishing marks for knowing at once, the sines, tangents and secants, in all right-angled triangles, according as either leg is made radius.

I will now ask how the two triangles (figures 27 and 28) compare.

By comparing the triangles, I find they are similar in every respect. The sides of the triangle, fig. 27, being measured from the lesser diagonal scale, which is half an inch divided into 10 equal parts, contains precisely the same number of equal parts as the sides of the triangle, fig. 28, which was measured from the larger diagonal scale, that being an inch, divided into the same number of equal parts. Therefore, in this respect, the sides are similar. The perpendicular, fig. 27, is on the one end A B, whereas it is on the other end of A B, in fig. 28. Here, again, the triangles are similar, for this cannot make any difference whatever. The chord in fig. 27 is outside the perpendicular B C; but in fig. 28 it is inside. This is owing, evidently, to making use of the two scales before mentioned, in laying off the sides of the triangle. Now, there can be no difference in this respect, for both chords are taken from the same scale. But the legs in fig. 28 are double the length of those in fig. 27. This, you say, must certainly make the angle larger. But you mistake. The angle does not depend at all on the length of the legs. To make this familiar, let us suppose a case.

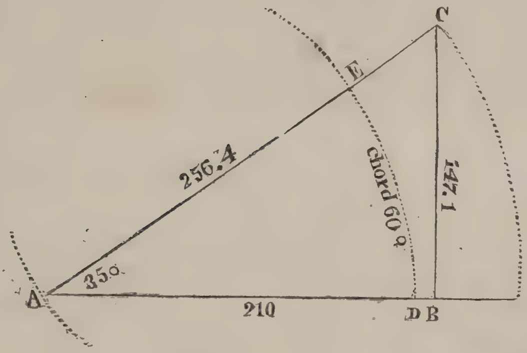
If you were on board a vessel and had a point of land bearing South, and an island S. W. by your compass, it is evident the angle from the one to the other is four points, or 45°. Suppose the distance to each was three miles. Again, let there be a mountain, 40 or 50 miles inland, due South from the point, and another due S. W. from the island. Then it is farther evident, that the point and the mountain are seen by you on a due south line, and the island and the mountain on a due S. W. line. Hence the angle between the mountains is precisely the same as that between the island and the point of land. So that the distance of the mountains, or the length of sides, does not affect the angle in the least; and all intervening objects on the two bearings evidently subtend the same angle.

By Logarithms, (fig. 28.)

By making the hypothenuse radius, it will be to find the base, A B, and perpendicular B C.

As radius,		10.00000
Is to the hypothenuse A C, 256.4,		2.40892
So is the sine of angle A, 35°,		9.75859
To the perpendicular B C, 147.1,	=	2.16751
As radius,		10.00000
Is to the hypothenuse A C, 256.4,		2.40892
So is the sine of angle C, 55°,		9.91336
To the base A B, 210,		2.32228

Case III.—*Figure* 29.



Let us suppose the hypothenuse A C 256.4, and the perpendicular B C 147.1, are given to find the base A B and angles.

By Projection.

Draw the base A B of any length. On B erect the perpendicular B C. Take 147 in your compasses from the large diagonal scale, and set it off from B to C. Take the length of the hypothenuse A C in your compasses, (256.4) from the same scale; and with one foot on C, describe an arch at A, as in the figure. Join A C, and it is done. For, A B being measured on the same scale, will be found equal to 210, and the angle at A 35°, consequently the angle at C is 55°.

To find the angle A.

Take the chord of 60 in your compasses, and, with one foot on A, describe the arch D E. Take the extent from D to E, which you will find equal to 35°, measured on the same scale of chords. The angle C is found in the same manner.

In working by logarithms, when the hypothenuse and perpendicular are given, or the base and hypothenuse, it will be best in all cases to make the hypothenuse radius, to find the angles; that is, make use of the hypothenuse for the first term, the tabular radius 10.00000 for the second term; and the base or perpendicular, as the case may be, for the third term, as in the following example:

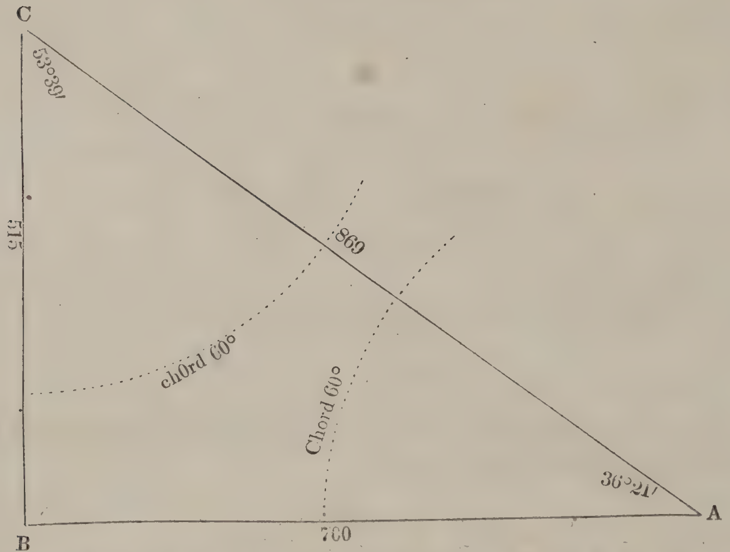
To find the Angles.

As the hypothenuse A C, 256.4,	2.40892
Is to radius,	10.00000
So is the perpendicular B C, 147.1,	2.16761
To the sine of angle A, 35°,	9.75869

Here the radius occurs in the second term. In subtracting the first term from the two last, you have only to consider the logarithm of the sum of the two last terms to stand thus:

two last terms to stand thus:	12.16761
From which subtract the logarithm of the first term,	2.40892
	9.75869

CASE IV.—*Figure* 30.



Given the base A B, 700 miles, and perpendicular B C, 515 miles, to find the hypothenuse and angles.

By Projection.

Draw the line A B at pleasure. Take the length of the base, 700 miles, in your compasses, from the small diagonal scale, and set it off from A to B. On B erect the perpendicular B C, which make equal to 515. Join A C, and it is done. For, A C being measured on the same scale, will be found equal to 869.

To find the angles A and C.

Take the chord of 60 in your compasses, and, with one foot on A, as a centre, describe the arch as in the figure. With the same extent, and one foot on C, describe another arch. Then will the angle at A be found equal to 36° 21′; and that at C 53° 39′.

By Logarithms.

To find the angle A, by making the base radius.

As the base A B, 700,	2.84510
Is to radius,	10.00000
So is the perpendicular 515,	2.71181
To the tangent of angle A, 36° 21′,	= 9.86671

Or you may make the perpendicular radius, to find the angle C.

As the perpendicular B C, 515,	2.71181
Is to radius,	10.00000
So is the base 700,	2.84510
To the tangent of C, 53° 39′,	10.13329

Having found the angles A and C, the length of the hypothenuse may be found by making either side radius. We will state the case both ways, in order to make use of the two angles A and C. The most correct way, however, is to make the greatest side radius.

To find the hypothenuse by making the base A B radius.

As radius,	10.00000
Is to the base A B, 700,	2.84510
So is the secant of A, 36° 21′,	10.09398
To the hypothenuse A C, 869.1,	2.93908

To find the hypothenuse by making the perpendicular radius.

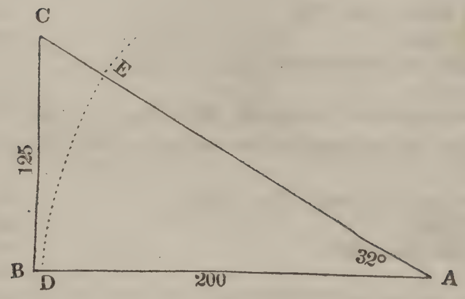
As radius,	10.00000
Is to the perpendicular B C, 515,	2.71181
So is the secant of angle C, 53° 39′,	10.22715
To the hypothenuse A C, 868.9,	2.93896

It has been before observed, that if one angle be known, the other is found by subtracting the known angle from 90°. In the preceding example we find this proved correct; as, by making the base radius, we find the angle at A to be 36° 21′
And, by making the perpendicular radius, the angle at C is 53 39
The sum of the two angles, therefore, are equal to 90 00

APPLICATION.

Standing upon a wharf, I observe a ship at the end, 200 feet distance, her deck being in a line with my eye. Being desirous to know the height of her main-royal truck from the deck, I measured with a quadrant the altitude of the mast, and found it to be 32 degrees. Now, to find the height, I proceeded according to rule, Case I., as follows:

By Projection.—Fig. 31.



I drew the line A B, at pleasure, on which I set off 200 feet, taken from the large diagonal scale, and called it the base. On B, I erected the perpendicular B C, to represent the mast. I then took the chord of 60 in my compasses, and, with one foot on A, I described the arch D E; on which, from D to E, I set off 32 degrees, and drew the line A C, passing through E. I then took the extent B C in my compasses, and, on the large diagonal scale, I found it equal to 125 feet.

Now, to ascertain whether the height of the mast-head could be found to a degree of accuracy by projection, I proposed going through the same calculation by logarithms, and proceeded according to rule, Case I., as follows:

As radius,	10.00000
Is to the base A B, 200 feet,	2.30103
So is the tangent of angle A, 32°,	9.79579
To the perpendicular B C, 125 feet,	= 2.09682

The nearest logarithm that could be found was 09691; the number corresponding to this is 125.

In order to show that trigonometry is very useful, not only to find the height and distances of objects, but for many other purposes, let us apply it to the art of sail-making, to find the gores on the mast, stay, &c. &c.

We will commence to find the gore on the mast of a schooner's mainsail, (fig. 11.) In that figure, you will observe is marked, on the after selvage, 4 feet, 5 inches; and from this measure is found the gore in each cloth on the mast, as per directions before given.

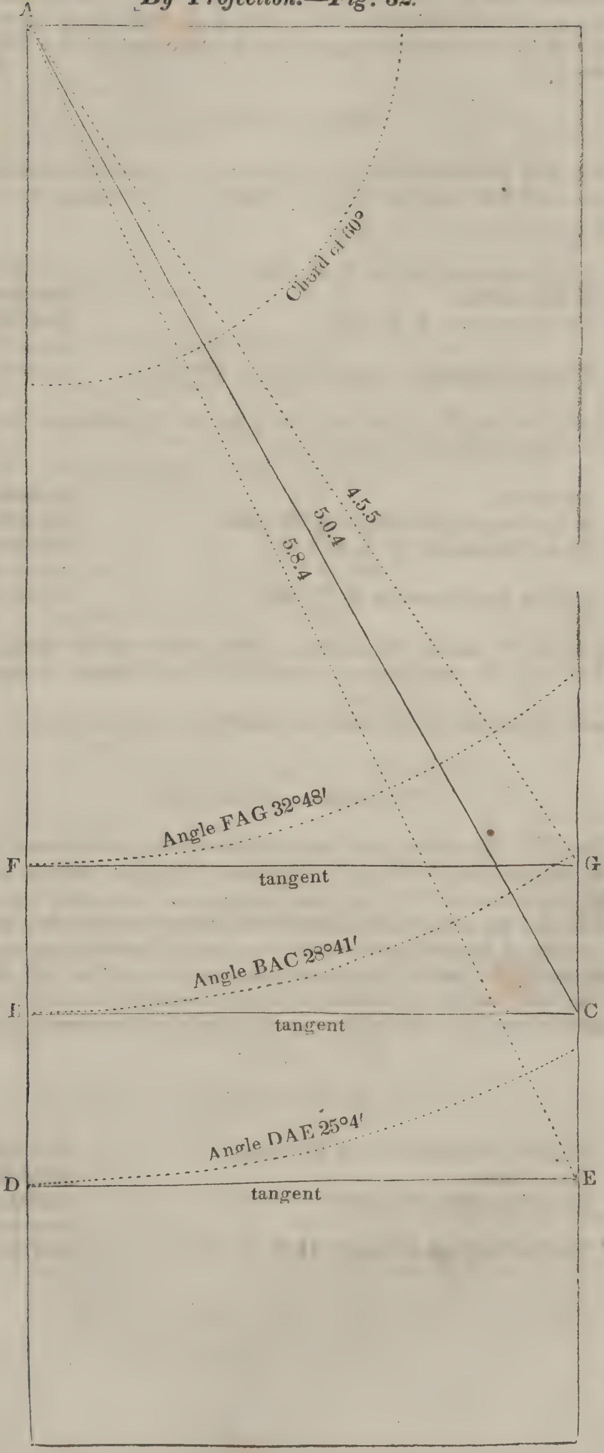
Let us proceed to find this gore by trigonometry, Case IV., the base and perpendicular being given to find the hypothenuse or gore.

The cloth is supposed to be 29 inches wide; and as the diagonal scale is divided into tenths of inches, which is the one we shall make use of for our present purpose, let us reduce each side to tenths, in the first place.

Width, 29 inches—by annexing a cypher, is $\frac{290}{10}$ of inches.
4 feet, 5 inches, as marked on the after selvage, fig. 11.
12

53 Reduced to inches, and annexing a cypher, is $\frac{530}{10}$ of inches.

By Projection.—Fig. 32.



Draw the base line B C, which make equal to 290. On B erect the perpendicular A B; on which set off 530. Join A C, and it is done. For, A C being measured on the same scale, will be found equal to 604 tenths, or 5 feet and $\frac{4}{10}$ of an inch.

By Logarithms.

As the base and perpendicular are given, to find the hypothenuse or gore on the mast, we must first find the angle by Case IV., by making the perpendicular A B radius.

As the perpendicular A B, 530,	2.72428
Is to radius,	10.00000
So is the base B C, 290,	2.46240
To the tangent of angle B A C, 28° 41′,	9.73812

Having found the angle, let us find the gore or hypothenuse, by Case IV.; by making the perpendicular radius also.

As radius,	10.00000
Is to the perpendicular A B, 530,	2.72428
So is the secant of A, 28° 41′,	10.05686
To the hypothenuse A C, 604.1,	2.78114

The product is 604 tenths of inches, or 60 inches and 4 tenths; which is 5 feet and 4 tenths of an inch gore in each cloth on the mast, as marked in the figure.

On the same principle let us find the mast-gore, fig. 6, treysail.

Projection.—Figure 32.

Set off from A to D, 620 tenths, taken from the large diagonal scale. Draw the line D E perpendicular to A D. Draw A E, as per dotted line, and it is done. Take the extent of A E in your compasses, and, with this extent, place one foot on 6, and the other will extend a little beyond the 8th diagonal line. Move both points of the compasses downwards, and when they are on the 4th parallel line, the right foot of the compasses will be on the 8th diagonal line, which will be 684 tenths of inches, and is, therefore, 5 feet, 8 inches and 4 tenths, or nearly one half of another inch, which is the mast-gore in this sail.

By Logarithms.

As the perpendicular A D, 620,	2.79239
Is to radius,	10.00000
So is the base D E, 290,	2.46240
To the tangent of angle D A E, 25° 4′,	9.67001

To find the Gore.

As radius,	10.00000
Is to the perpendicular A D, 620,	2.79239
So is the secant of A, 25° 4′,	10.04296
To the hypothenuse A E, 684.5,	2.83535

12)68,4

5 feet, 8 inches, 4½ tenths.

To find the Stay-Gore in fig. 12—*Foretopmast Staysail.*

Projection.—Fig. 32.

Set off from A to F 450 tenths, which is equal to 8 feet, 9 inches, marked on the after selvage of the canvass, in fig. 12. Draw the line F G. Join A G, and it is done. For, the extent from A to G will be found equal to 535 tenths, which is 4 feet, 5 inches, and $\frac{5}{10}$ gore on the stay of this sail.

By Logarithms.

To find the Angle.

As the perpendicular A F, 450,	2.65321
Is to radius,	10.00000
So is the base F G, 290,	2.46240
To the tangent of angle F A G, 32° 48′,	9.80919

To find the Gore or Hypothenuse.

As radius,	10.00000
Is to the perpendicular A F, 450,	2.65321
So is the secant of angle F A G, 32° 48′,	10.07543
To the hypothenuse A G, 12)53,5	2.72864

4,5.$\frac{5}{01}$

REMARKS.

It was my intention to have constructed a table on the preceding principle, for finding the gore from the measure down the selvage, to every ¼ of an inch up to 10 feet. But canvass being of various widths, I found that one table alone would not answer.

I therefore thought best to show how the gore could be found by trigonometry. Any one can construct a very accurate table on this principle by logarithms. Perhaps it will be well to observe, that, in calculations of this kind, it would be best to reduce the length of the sides to their lowest terms: the products are always of the same name as the given side or sides are. In the preceding examples the inches were reduced to tenths; consequently, the products or answers were also tenths of inches.

OBLIQUE TRIGONOMETRY.

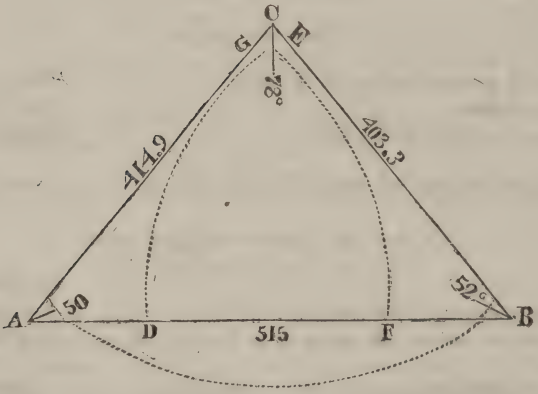
Case I.

Given the base A B 515, the angle at B 52°, and that at C 78°, to find the legs B C and A C.

I will again observe, that when two angles of a triangle are given, the other is found by subtracting the sum of the two from 180°.

Angle A B C,	52°
Angle A C B,	78
Sum,	130
Subtract from	180
Angle B A C,	50°

By Projection.—Fig. 33.



Draw the base line A B, at pleasure ; on which set off 515, taken from the small diagonal scale. Take the chord of 60° in your compasses, and, with one foot on B, describe the arch D E. With the same extent, and one foot on A, describe the arch F G. Take 52° from the same scale of chords in your compasses, and set it off from D to E. Take 50° in your compasses, and set it off from F to G. Join B C and A C, and it is done ; for B C will be found equal to 403, and A C 415, nearly.

By Logarithms.

In all plane triangles, the sides are in direct proportions to each other as the sines of their opposite angles ; that is, as the sine of the given angle C 78°, (fig. 33) is to its opposite given side 515, so is the sine of the given angle B 52°, to its required side A C ; and so is the sine of A 50° to its required side B C.

By the preceding proposition, to find the side A C, it is thus stated:

As the sine of the given angle C 78°,	9.99040
Is to its opposite side 515,	2.71181
So is the sine of the given angle B 52°,	9.89653
	12.60834
	9.99040
To its required side A C 414.9,	2.61794

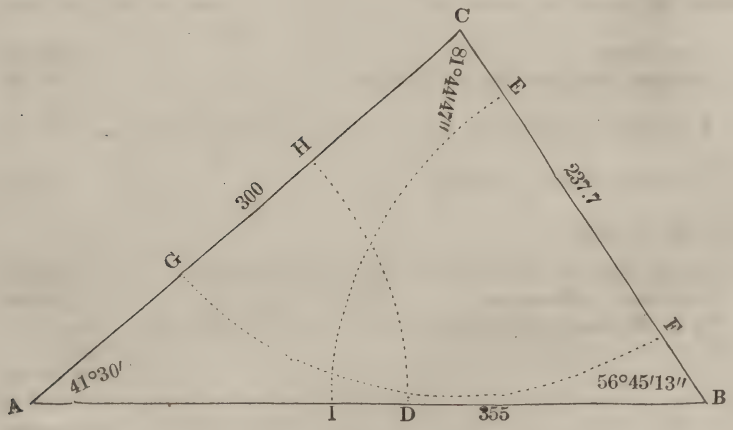
To find the side B C.

As the sine of angle B 52°,	9.89653
Is to the side A C 414.9,	2.61794
So is the sine of A 50°,	9.88425
	12.50219
	9.89653
To the side B C 403.3,	2.60566

Or thus:

As the sine of angle C 78°,	9.99040
Is to the side A B 515,	2.71181
So is the sine of angle A 50°,	9.88425
	12.59606
	9.99040
To the side B C 403.3,	2.60566

CASE II.—*Figure* 34.



Given the side A B, 355; side A C, 300; and the angle at A 41° 30′, to find the other side and angles.

By Projection.

raw the line A B, at pleasure, which make equal to 355, taken from the large diagonal scale. With the chord of 60° in your compasses, and one foot on A, as a centre, describe the arch H D. Set off on the arch H D, 41° 30′. Draw the line A C, which make equal to 300, taken from the same scale. Join C B, and it is done. For, C B being measured on the same scale, will be found equal to 238, nearly.

To find the angles A C B, and A B C.

Take the chord of 60 in your compasses; with one foot on B, describe the arch I E; and, with one foot on C, describe the arch F G. Take the extent from F to G in your compasses, and you will find it equal to 82°, nearly, which is the angle at C. Take the extent from I to E, and you will find it equal to 57°, nearly, which is the angle at B.

By Logarithms.

In this case we have two sides and one angle given, to find the other two angles and side. Here are two unknown angles; and, as the given angle is 41° 30′, the other two must be equal to 138° 30′. This case, and all similar cases, depend on the following proportions:—In all plane triangles, as the sum of any two sides is to their difference, so is the tangent of half the sum of the two opposite angles to the tangent of half their difference.

PREPARATION.

First, find the difference between the given sides; then take their sum, viz.

Given side A B,	355		355
Given side A C,	300		300
Difference between the sides,	55	Sum of the two sides,	655

Then from	180 deg.
Subtract the given angle C A B,	41 30′
And there remains the sum of the two unknown angles,	138 30
The half sum of which is	69 15

Then say by rule,

As the sum of the two sides 655, its logarithm,	2.81624
Is to their difference 55, its logarithm,	1.74036
So is the tangent of half the unknown angle 69° 15′,	10.42151
	12.16187
	2.81624
To the tangent of half their difference, 12° 29′ 47″,	9.34563

Rule.—Add this half difference,	12° 29′ 47″
To half the sum of the angles,	69 15 00
And you will have the greater angle A C B,	81 44 47
Again, subtract this half difference,	12 29 47
From half the sum of the angles,	69 15
And you will have the lesser angle A B C,	56 45 13

Having found the angles, the side is found by Case I.

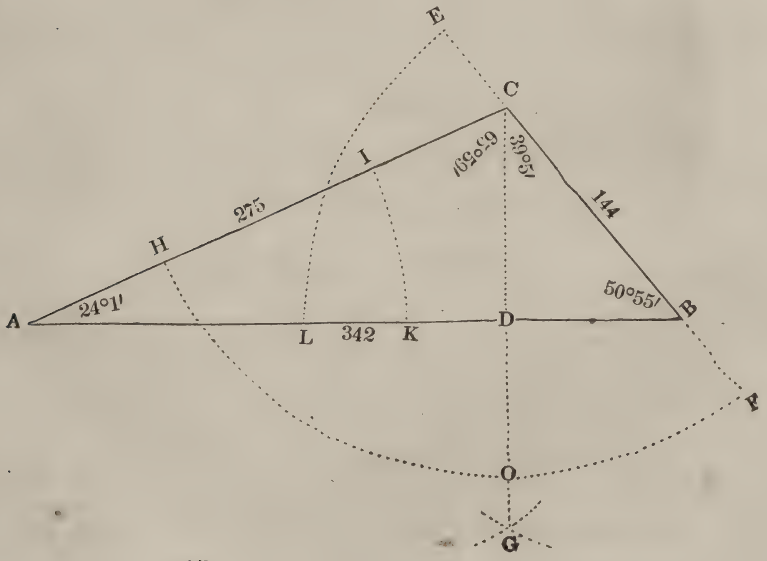
As the sine of angle B, 56° 45′,	9.92235
Is to the side of A C, 300,	2.47712
So is the sine of angle A, 41° 30′,	9.82126
	12.29838
	9.92235
To the side B C, 237.7,	2.37603

Or thus:

As the sine of angle C, 81° 45′,	9.99548
Is to the side A B, 355,	2.55023
So is the sine of angle A, 41° 30′,	9.82126
	12.37149
	9.99548
To the side B C, 237.7,	2.37601

Case III.—*Fig.* 35.

The three sides given to find the Angles.



In every plane triangle, as the longest side is to the sum of the other two sides, so is the difference between those two sides to the difference between the segments of the longest side, made by a perpendicular, let fall from the angle opposite that side.

Half the difference between the segments, added to half the sum of the segments, will give the greatest segment; and the half difference, subtracted from the half sum, will give the lesser segment. Now, by dividing the triangle in this manner, we have two right-angled triangles, and the hypothenuse and one leg are given to find the angles.

The side A B 342, A C 275, and the side B C 144, given to find the angles A B C, A C B, and B A C.

Side A C,	275	A C,	275
Side B C,	144	B C,	144
Sum,	419	Difference,	131

As the longest side A B 342, its logarithm,	2.53403
Is to the sum of the two sides 419, its logarithm,	2.62221
So is the difference between the sides 131, its logarithm,	2.11727
	4.73948
	2.53403
To the difference between the segments 160.5,	2.20545

Half the length of side A B, is half the sum of the segments,	171
This, added to half the difference of the segments,	80.2
Gives the greater segment A D,	251.2
Half the difference subtracted, gives the lesser segment B D,	90.8

The triangle being divided into two right-angled triangles A D C, B D C, we have the hypothenuse and one leg in each, given to find the angles.

We will make the hypothenuse A C radius, to find the angle A C D.

As the hypothenuse A C, 275,	2.43933
Is to radius,	10.00000
So is the greater segment A D, 251.2,	2.40002
To the sine of angle A C D, 65° 59′,	9.96069

To find the angle B C D.

As the hypothenuse B C, 144,	2.15836
Is to radius,	10.00000
So is the lesser segment B D, 90.8,	1.95808
To the sine of the angle B C D, 39° 5′,	9.79972

Now, by subtracting the angle A C D,	65° 59′
From	90 00
We have the angle C A D,	24 01

And by subtracting the angle B C D,	39 05
From	90 00
We have the angle D B C,	50 55
By adding the angle B C D,	39 05
To the angle A C D,	65 59
We have the angle A C B,	105 04

To project Figure 35.

Draw the line A B, which make equal to 342, taken from the large diagonal scale. Take 275 from the same scale; and, with one foot on A, describe an arch at C. Take 144 in your compasses; and, with one foot on B, describe another arch, cutting the former in C. Join A C and B C; let fall the perpendicular C G, passing through D; and the line A B will be divided into two segments.

To find the Angles.

Take the chord of 60 in your compasses, and, with one foot on A, describe the arch K I. With the same extent, and one foot on C, describe the arch H F; and, with one foot on B, describe the arch L E. Now, in order to find the angle A B C, extend the side B C to E, as in the figure. Take the extent from L to E in your compasses, which will be found equal to 51°, nearly, on the same line of chords.

To find the angle B C D.

Extend the line C B to F. Take the extent from O to F, which will be found equal to 39°, nearly.

Angle A C D. Take the extent from H to O, which will be found equal to 66°, nearly.

Angle C A D. Take the extent from K to I, which will be found equal to 24°, nearly.

To find the Segments.

Take the extent from D to B, which will be found equal to 91, nearly, on the large diagonal scale; and the extent from A to D the greater segment, which will be found equal to 251, nearly, on the same scale.

RIGHT ASCENSION OF THE SUN, MOON, AND STARS.

Right ascension of a heavenly body, is its distance from the first of Aries, reckoned upon the equinoctial eastward, round the globe.

Equinoctial Points,

Are two points in which the ecliptic cuts the equator. The vernal equinox is at the first degree of Aries in the ecliptic; the autumnal at the first of Libra. The sun enters Aries the 21st of March, and Libra the 23d of September, which is six signs, or 180 degrees, from Aries.

As I before recommended calculating the altitude of the stars and moon, in taking a lunar observation in the night; and as the right ascension is made use of in these calculations, I shall here endeavor to show, first, what the right ascension is, and the point from which it is reckoned.

2. What is meant by the right ascension of the meridian. And, thirdly, how the distance of the object from the meridian is found.

And first, by Figure 36.

Let the dotted circumference, fig. 36, represent the great circle of the equinoctial,* which is an imaginary line in the heavens, passing round the earth from west to east, and is divided into 360 degrees; these into minutes, and the minutes into seconds, thirds, &c. Let O be the equinoctial point Aries, from which the right ascension of the heavenly bodies is reckoned. Let this * represent the following stars, differing in right ascension, as marked both in degrees and time, as in the figure.

Arietes,	25 degrees, or		I. hour,		40 minutes.	
Aldebaran,	60	" "	IV.	"		
Sun,	90	" "	VI.	"		
Pollux,	110	" "	VII.	"	20	"
Regulus,	155	" "	X.	"	20	"
Spica,	205	" "	XIII.	"	40	"
Antares,	250	" "	XVI.	"	40	"
Aquillæ,	300	" "	XX.	"		
Fomalhaut,	335	" "	XXII.	"	20	"

The stars are marked in the figure in regular order, although no attention was paid to placing them down according to their right ascension. From what has been said, by referring to the figure, it must be at once known what is meant by the right ascension of any object; therefore, any more on this subject, would be superfluous. Perhaps it may be well to add, that the difference of right ascension is by no means the distance between the objects.

Right Ascension of the Meridian or Mid-heavens,

Is the distance of the meridian from the first point Aries, and is found by adding the time past noon, to the sun's right ascension.

Illustration.

Let E E, fig. 36, be the earth; and the figures XII., I., II., III., &c. denote the hours of the day. Let the dotted lines from the earth, passing through the equinoctial, divide the circumference of each circle into 24 equal parts, each division being equal to 15°, or one hour of the earth's diurnal motion. You must remember that each and every division on these lines is supposed to be equally distant from the equinoctial point Aries, whether this point be on the earth or referred to the heavens. Thus, the meridian at C. XII.: M. the moon, and S. the sun, are all supposed to be equally distant from the first point O, Aries; that is, the right ascension of the sun, moon, and the meridian, are 90°, or 6 hours in time.

Now, let us suppose the time of the day to a person at III. A, to be three o'clock in the afternoon; then, if these three hours be added to the sun's right ascension, 6 hours, the right ascension of the meridian at A is 9 hours, or 135°, as shown in the figure by the 9th dotted line passing from III. through A, to that part of the greater circumference denoting the 135th degree from the point O, Aries.

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* The Equator, when referred to the heavens, is called the *Equinoctial.*

Let us again suppose it was required of the person at A, to find the moon's distance from the meridian at F. By examining the figure, we find the distance from A, 135, to B, 180°, is three divisions of the great circle, of 15° each; therefore, the moon's distance from the observer at A is 45° east of the meridian, and of course rising; or, which is the same thing, she is 3 hours from the meridian.

By Calculation.

To the sun's right ascension,	6 hours, or	90°
Add the time past noon,	3 hours, or	45
The sum is the right ascension of the meridian,	9	135
Take the difference between the right ascension of the meridian, and the moon's right ascension,	12 hours, or	180°
And we have the moon's distance from the meridian,	3 hours, or	45° *

The moon's right ascension being the greatest, she must be to the eastward of the meridian.

Again. Suppose a person at D, at the same moment, should wish to find the moon's distance from the meridian. By examining the figure, we find the time of the day to be 9 o'clock, P. M. This, added to the sun's right ascension, 6 hours, is 15 hours, or 225°, as marked on the outer circumference in a line with D; and is the right ascension of this meridian. The difference between this and the moon's right ascension, 180°, is 45°, or 3 hours; hence, the moon is the westward of the meridian, because the right ascension of the meridian is greatest.

In calculating the distance of any object from the meridian, the hours are reckoned from 1 to 24; so that 1 A. M. is 13 hours from the preceding noon, 6 A. M. is 18 hours, and 10 A. M. is 22 hours, &c.

If the sun's right ascension be added to the time from the preceding noon, and the sum exceeds 24 hours, you must subtract 24 hours from this sum, and the remainder will be the right ascension of the meridian.

To illustrate this, let us demand what the right ascension would be to a person at XI. between K C.

Reckoning from the preceding noon, 11 hours is	23 hours.
Sun's right ascension in time is	6 hours.
Sum is	29
From which subtract	24
The remainder is the right ascension of the meridian,	5

By examining the figure, we find the sun is 6 hours, or 90°, from Aries, the meridian XI. is one hour from the sun; therefore, the difference between 1 and 6 is 5, which is the distance of the meridian from Aries, the same as above.

Again. Let us suppose the sun to be 270°, or 18 hours in time, from Aries, which will answer to December 22d, and will be opposite to where he now is in the figure. Then at H it would be midday, and at C, midnight. Let it be required of an observer at D, to find the distance of the star Antares from this meridian.

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* The distance in degrees from the meridian must not be understood as it would be shown by a sextant or a quadrant, but it is the number of degrees of the Earth's motion on its axis, which is 15 degrees an hour, nearly.

First, by Rule.

Time at D is 9 A. M. from the preceding noon, or	21 hours.
Sun's right ascension 270° in time is 18 hours from Aries,	18
Sum,	39
From which subtract	24 hours.
The remainder is the right ascension of the meridian,	15
Antares' right ascension, as marked in the figure, is	16° 40′
Star's distance from the meridian at D,	1° 40′

By inspection of the figure, the sun is 18 hours at Aries, the meridian at D is 3 hours from the sun. Deducting these 3 hours from 18, there remains 15 hours, which is the right ascension of the meridian: The difference between the right ascension of the meridian and the star's right ascension, 16h. 40 min., is 1h. 40 min.; which is the star's distance East of the meridian, because its right ascension is greater than the right ascension of the meridian.

On the reduced or Greenwich time.—Figure 36.

As the young beginner in Nautical Astronomy is sometimes embarrassed in finding the Greenwich or reduced time, when his longitude is far East or West, I shall endeavor, with the assistance of fig. 36, to make this important part of his calculation clearly understood. And, first, I would have him remember, that

15°		of longitude	are equal to	1	hour	in time.
1°		"	"	4	minutes	"
1	mile	"	"	4	seconds	"
0¾	"	"	"	3	"	"
½	"	"	"	2	"	"
¼	"	"	"	1	"	"

And the reverse, viz.

1	second	of time	is equal to	15	seconds, or	¼	of a mile	of longitude.
2	"	"	"	30	"	½	"	"
3	"	"	"	45	"	¾	"	"
4	"	"	"	60	"	1	mile of long.	
1	minute	"	"	15	miles of long.			
2	"	"	"	30	"	"		
3	"	"	"	45	"	"		
4	"	"	"	60	miles, or 1 degree.			
1	hour	"	"	15	degrees.			
2	"	"	"	30	"			
3	"	"	"	45	"			
4	"	"	"	60	" &c. &c.			

The sea-day commences at noon, and the time is reckoned from noon to noon, in numerical succession, from one to twenty-four hours; that is, 1 A. M. is 13 hours—4 A. M. is 16 hours—8 A. M. is 20 hours, &c. &c.

In West longitude, add the longitude turned into time to the ship's time, or time of observation; and the sum will be the time at Greenwich. Should this sum exceed 24 hours, subtract 24 hours, and add one to the day of the month, as in the following example.

Let it be required to find the time at Greenwich, at a place 90° West longitude, on the 21st of June, at 11 A. M.

Sea acc't. June 21 is by N. Almanac the 20th, at 9 A. M. is	21 hours.
Long. 90° W. in time 15° to one hour is	6
Sum is	27
Sub. 24 hours, and add 1 to the day of the month,	24
Sea acc't. June 22d is N. Almanac June 21st, time at Greenwich,	3 hours.

Let us illustrate this by fig. 36.

Let A be the meridian of Greenwich, K another meridian 90° West of Greenwich, at 9 A. M. on the 21st of June, sea account. Now, it is evident, that the sun is three hours East of the meridian at K, whereas he is 3 hours West of the meridian at A, Greenwich. Therefore, at A, it is 3 o'clock on the 22d sea-day, but at K it is 9 o'clock A. M., or 21 hours on the 21st sea-day, which is 6 hours difference between the two meridians. Therefore, K must move forward 3 hours or 45° East, before the 22d sea-day will commence at K, and A will then be at B.

Hence, when the sum of the ship's time and the longitude in time exceeds 24 hours, the following day has commenced at Greenwich, and they will be as far advanced in that day as this time exceeds 24 hours.

Again, let it be required to find the time at Greenwich, at a place 135° East, on the 22d of June, sea account, at 3 P. M.

By Rule.

June 22d is by Nautical Almanac the 21st, at	3 P. M.
Add 24 hours, and subtract 1 from the day of the month,	24
Sum,	27
Longitude 135°, in time is	9 hours.
Sea account, 21st, is, by Nautical Almanac, the 20th, at	18 or 6 A. M.

By the Figure.

Let us suppose I to be the meridian of Greenwich, and A a meridian on the earth, 135° East of Greenwich, on the 22d of June, at 3 P. M. We find the *sun* to be 6 hours to the eastward of I Greenwich, whereas at A the sun is 3 hours West of its meridian; and, therefore, A is already advanced 3 hours into the sea-day the 22d. But I Greenwich is 6 A. M., or 18 hours from the preceding noon on the 21st, sea account; therefore, if the time to be subtracted is greater than the time of observation, or ship's time, 24 hours must be added to this time, and the difference is the Greenwich time on the preceding day; for, if the time at A had been greater than the time at I, the sun could not have passed the *meridian* at A. To prove this, let K be a meridian 45° East of I, Greenwich, at 9 A. M., which is 21 hours.

The time at I is 6 A. M., or 18 hours, 18

The difference is 3, or 45°.

Hence K is on the same side of the meridian, as regards the sun, that I is.

THE PRINCIPLE ON WHICH THE LATITUDE IS OBTAINED FROM THE OBSERVED ALTITUDE, FIGURE 40.

Before we enter particularly on this subject, it will be necessary to notice the power of the Earth's central attraction, which lays hold of all bodies according to their density or quantity of matter, without regard to their bulk, and constitutes what we call weight. Hence a person, let him be where he will on the earth's surface, stands with his feet to the centre. And, therefore, if a line be supposed to be drawn from the centre of the earth, through the observer on the surface, and extended to the heavens, that point will be his zenith. To illustrate this, let us suppose fig. 40 to be the Earth ; the line K U i the equator ; the line T U A the Earth's axis, extending out to the starry heavens, both ways. Let W be the north celestial pole, and V the South celestial pole. Now, if a person be any where on the equator K U i, as suppose at K, the axis of the Earth is coincident with the plane of his horizon, extended out to V W, the north and south poles of the heavens ; and X, in the celestial equator, is evidently his zenith.

Let us suppose that the observer at K has gone from the equator towards the north pole at F, from which place he views the hemisphere f X y u W t : his horizon f U t, having shifted as many degrees from the celestial poles, V W, as he has travelled from the equator, which is 40°. Hence his zenith is perpendicular to the line f U t, and is referred by him to the point at u. Therefore, it is evident, that, as a person travels from the equator towards the poles, his horizon becomes more or less oblique ; but, when on the pole, as at A or T, the horizon will be parallel with the equator ; the zenith at A will be referred to the point in W, and that at T to V. And all the stars, in the northern hemisphere, to an observer at A, on the north pole, would appear to turn round the line W A, parallel with the equator, without setting. Much more might be said respecting the phenomena of the heavens, as viewed from different parts of the globe ; but, as we have one object particularly in view, we will spend no more time on the subject than is necessary. I will add, however, that the earth's bulk is but a point, compared to the heavens ; and, therefore, every inhabitant upon it, let him be where he will, sees one half of the heavens ; the zenith being 90° from every point of his horizon. P would have his horizon at Z u f, being his zenith. But if P travels until he arrives at F, then the point which was before his zenith, will now be his horizon ; and the point which was horizon will now be his zenith. Hence, if we have an object in our zenith, and sail north or south 90 degrees, that object will be in the horizon. Let us suppose the point at f, in the zenith to P, to be a star whose declination is 50° south ; it is evident that the same line which passes through P, if continued, would pass through f ; and the star's declination must be the latitude of the observer at P, as the distance from P K, in degrees, is precisely the same as f X. Let us suppose P to be travelling to F. When P arrives at O, the altitude of the star f will be but 80°, bearing south ; and the star's distance from the equinoctial X is 10° greater than the zenith at O. Hence, if this zenith distance be subtracted from the star's declination, 50° south, the observer at O will have his distance from K, the equator, 40° south. Suppose

P to have arrived at K; then X f would be the star's zenith distance, 50° at K; and is the same distance in degrees as K P on the earth. The altitude would be 40 degrees. Now the difference between the declination and zenith distance is nothing; of course, the observer is on the equator. While P continued south of the equator, it is evident that the zenith distance would be less than the star's declination. But as soon as P crosses the equator, the zenith distance will be greater than the star's declination. From this circumstance the observer would know whether he was on the north or south side of the equator. For, suppose P to have arrived at G; the star's zenith distance would be equal to y f, 80 deg. Its altitude, of course, at G, would be 10 degrees. Hence, if the declination 50° South, be subtracted from the zenith distance 80° North, there remains 30° North, the latitude of the observer at G. Suppose P to be at F; then the star f would be exactly in the horizon. The star's zenith distance at F would be 90°; from which, subtracting the declination 50° South, leaves the lat. at F, 40 North.

Let us suppose S between f X, to be the sun at 20° South declination; then would he be vertical to M when on the meridian, and 90° distance from every point of his horizon; and his declination would be the latitude at M, as the star's was at P. But suppose M to be at N; then it is evident that he has the sun bearing North, at an altitude of 80°. And of course the distance from N to M is equal to the zenith distance, 10°. Hence, the sun being 20° South of the equator, and N 10° South of the sun, it is evident, if the distance N M, 10°, be added to the distance M K, 20°, N will have his distance from the equator K, 30° South. But suppose M to have gone to L, the sun's altitude at both positions would be precisely the same; but, instead of the sun's bearing North, it evidently would bear South. Therefore, if the zenith distance, 10°, equal to M L, be subtracted from the sun's declination, 20°, equal to K S South, the observer at L will have his distance from K, the equator, 10°. Again, let M be at H. The sun's altitude at this station would be 50°, bearing South. Hence, the zenith distance would be 40°. Now this is evidently the distance the sun is from being in a perpendicular line to H; and is the distance H M. Therefore, if the distance K M or X S, the sun's declination South, be subtracted from the zenith distance, equal to H M, 40° North, the observer at H will have his distance from the equator, K, 20° North; because the zenith distance is greater than the sun's declination. Therefore we may conclude, if an object has South declination, and bears South to an observer when on the meridian, if the zenith distance is less than the declination of the object, the observer is in South latitude; but if the zenith distance be greater than the declination, the observer is in North latitude.

But if the object bears North having South declination, it is evident that the observer is as much farther South of the equator than the object is, as the object is distant from his zenith, and the contrary. For, if the sun at 20° North declination, (fig. 40,) bears North, and the zenith distance is less than the declination, the observer is in North latitude. But if the zenith distance be greater than the sun's declination, the sun bearing North, the observer is in South latitude. And if the sun bears South, having North declination, it is evident that the observer is as much farther North of the equator than the sun is as the sun's distance is from his zenith.

Circle of Perpetual Apparition.

As the heavens seem to turn round the line A W, all those stars which are not as many degrees from the North pole W, as the observer is from the equinoctial X, never set below the horizon.

The circle of perpetual apparition may be found by subtracting the latitude of the observer from 90°. Thus, suppose F (fig. 40) to be 40° North latitude; the difference between this and 90° is 50°. Hence all the stars that have over 50° North declination, or whose polar distance is less than 40°, will never set to F, in the latitude of 40° North. And this must be evident from what has been before said respecting the rational or true horizon, which determines the rising and setting of the sun, stars, and planets.

If the point at t be the rational horizon of the observer at F, it is evident that the observer views the horizon 40° below the pole W, and the star would appear to describe a circle round the pole, the radius of which would be equal to the star's North polar distance. And the star would rise to F from the horizon, when bearing due North, and in 6 hours would be at its greatest eastern elongation; that is, would be in an East line with the pole; still continuing to rise for 6 hours after; at which time the star would be on the upper meridian; that is, its greatest distance above the pole. The star would then appear to descend and approach its greatest western elongation; and would be at this position in 18 hours from its first beginning to rise from the horizon, and in 24 hours would again be at its former position at t.*

The observer at F will have all those stars whose polar distance is less than 40°, on the meridian twice in 24 hours; once above the pole and once below it. And when any star is on the meridian above the pole, the latitude is found by the rule before given. But when the star is on the meridian below the pole, the latitude is found by adding the complement of the star's declination (which is its polar distance) to the star's altitude corrected for dip and refraction; the sum being the latitude of the place of observation of the same name as the declination.

Let us examine fig. 40 on this subject. If t be seen by F, 40° below the pole W, it is evident that F must be 40° North of the equator K. Now, by rule, supposing t was to be seen, exactly in the horizon, without regard to dip or refraction. The star's altitude would be evidently 0° 0′ 00″. Add the star's North polar distance, 40°, and it will be F's distance North of the equator. Again, suppose the point perpendicular to p, to be a star, its declination 60° North; the complement of which is 30°, its distance from the North pole. Hence, if the star's altitude be measured by F, when on the lower meridian, it will be found equal to 10°. Therefore, if the star's N. P. distance, 30°, be added to the observed altitude, 10°, we have the latitude at F, 40° North. And finally, suppose the star perpendicular to r, to be observed at F, its declination being 80° North, the complement of which is its N. P. D. 10°—the star's altitude would be equal to 30° on the lower meridian. Now, by adding the star's N. P. distance, 10°, to this observed altitude, the sum is 40°, the latitude of the observer at F. But if this star be observed when on the upper meridian, its altitude at F would be 50°. Hence, by the rule, the star's zenith distance at F is 40°. Now, by subtracting this Z. D. from the star's declination, 80° North, the latitude is 40° North, and is the same as when the star was supposed to be observed on the lower meridian, at an altitude of 30°.

* It will be observed, that I have supposed the earth to turn on its axis from W. to E. in 24 hours: but the truth is, it turns on its axis in 23 hours, 56 minutes, and 4 seconds, making about 366 revolutions in 365 days, or a year. The natural day would always consist of 23 hours, 56 minutes, 4 seconds, instead of 24 hours, if the earth had no other motion than that on its axis. But, while the earth has revolved eastward once round its axis, it has advanced nearly one degree eastward in its orbit. To illustrate this, suppose the sun to be upon any particular meridian at 12 o'clock on any day. In the space of 23 hours, 56 minutes, 4 seconds afterwards, the earth will have performed one entire revolution; but it will at the same time have advanced one degree nearly in its orbit; and, consequently, that meridian which was opposite to the sun the day before, will now be one degree eastward of it. Therefore, the earth must perform something more than one revolution before the sun appears again on the same meridian. So that the time from the sun's being on the meridian on one day, to its appearance on the same meridian on the next day, is 24 hours.

TO FIND THE CORRECTION IN ALTITUDE OF THE NORTH POLAR STAR, IN ANY YEAR.—*Figs.* 37 *and* 38.

Rule.—Find the difference between the right ascension of the meridian and the star's right ascension. If this difference is more than 6 hours, and less than 12 hours, subtract it from 12 hours.

If it is more than 12 hours, and less than 18 hours, subtract 12 hours from it.

If more than 18 hours, subtract it from 24 hours, and the remainder, in each case, will be the star's distance from the meridian in time, which reduce to degrees. Find the number of degrees at the top or bottom of table 2, Bowditch's Navigator, as if it were a course; take from the Nautical Almanac the star's North polar distance, in minutes, as a distance; seek in the distance-column for the corresponding distance, opposite to which, in the right-hand difference-of-latitude-column, will be the required correction in minutes, *or miles.*

This correction must be added to the star's observed altitude, corrected for dip and refraction, if the difference between the star's right ascension and the right ascension of the meridian is more than 6 and less than 18 hours, or otherwise it must be subtracted, and the result will be the latitude of the place of observation.

Example 1.

If the observed altitude of the polar star be 43° 55′ on the 21st of March, 1830, at 9 hours past noon, what will be the latitude of the place of observation?

	h. ′ ″
Sun's right ascension March 21, 1830,	0 1 26
Time of observation,	9 0 0
Right ascension of the meridian,	9 1 26
Right ascension of polar star,	0 59 12
Difference is more than 6 hours and less than	8 02 14
12 hours, subtract this difference from	12 00 00
Polar star's distance from the meridian	3 57 46 which
being reduced to degrees is	59° 26′ 30″
Star's North polar distance 1° 35′ 46″ reduced to minutes, is	96 nearly.

Enter table 2 with this distance from the meridian in degrees, as a course, and the star's North polar distance 96 miles, in the distance-column, opposite to which, in the latitude column, will be the correction.

Star's observed altitude,	42° 55′
Subtract for dip and refraction,	5
Star's apparent altitude,	42 50
Correction table 2 is added because the difference between the star's right ascension and right-ascension meridian is over 6 and less than 18 hours, and is found to be	0 49
Latitude of Portland Lighthouse,	43 39

Having given a rule for finding the latitude by this star, I will now show the principle on which this calculation rests.

Perhaps it will be well to observe, that the star describes a circle round the celestial pole, the radius of which is equal to the star's North polar distance. This apparent motion is occasioned by the earth's diurnal motion on its axis from West to East; hence the star passes the meridian twice in 24 hours, once above the pole, and once below it; and of course bears due North at such times. The radius taken in the compasses to describe the star's apparent path, fig. 38, (to which you are referred,) was 96 miles from the large diagonal scale, being the star's distance from the North pole, on the 23d of September, 1830; which is its polar distance to within a very few seconds at that time. The line t g, passing through P, divides this circumference into two semi-circles; a represents the upper meridian; g, the star's greatest western elongation; n, the lower meridian; and t its greatest eastern elongation.

This circumference is divided into 24 equal parts, in the order of the letters a, b, c, d, &c., showing the position of the star for every hour in the 24. Perpendicular to t P g, are drawn eleven lines, passing through 0 0 0, &c., touching the points of the divisions in the circumference; the use of which will be hereafter given. Fig. 37 represents the Earth; the circumference A B C D, &c., the parallel of 30 degrees North latitude; the letters are supposed to represent 24 meridians on the earth. The earth's diurnal motion is supposed to be from West to East, in alphabetical order.

The sun is supposed to be at the first degree of Libra on the 23d of September; his right ascension, therefore, is 12 hours or 180 degrees from the equinoctial point ♈, Aries. The star is 1 hour or 15 degrees from this point, being the star's right ascension on that day to within a few seconds.

Having given a description of figures 37 and 38, we will now commence on the Rule.

The Rule says, If the difference between the right ascension of the meridian and the star's right ascension is more than 6, and less than 12 hours, subtract it from 12 hours, and the remainder will be the star's distance from the meridian.

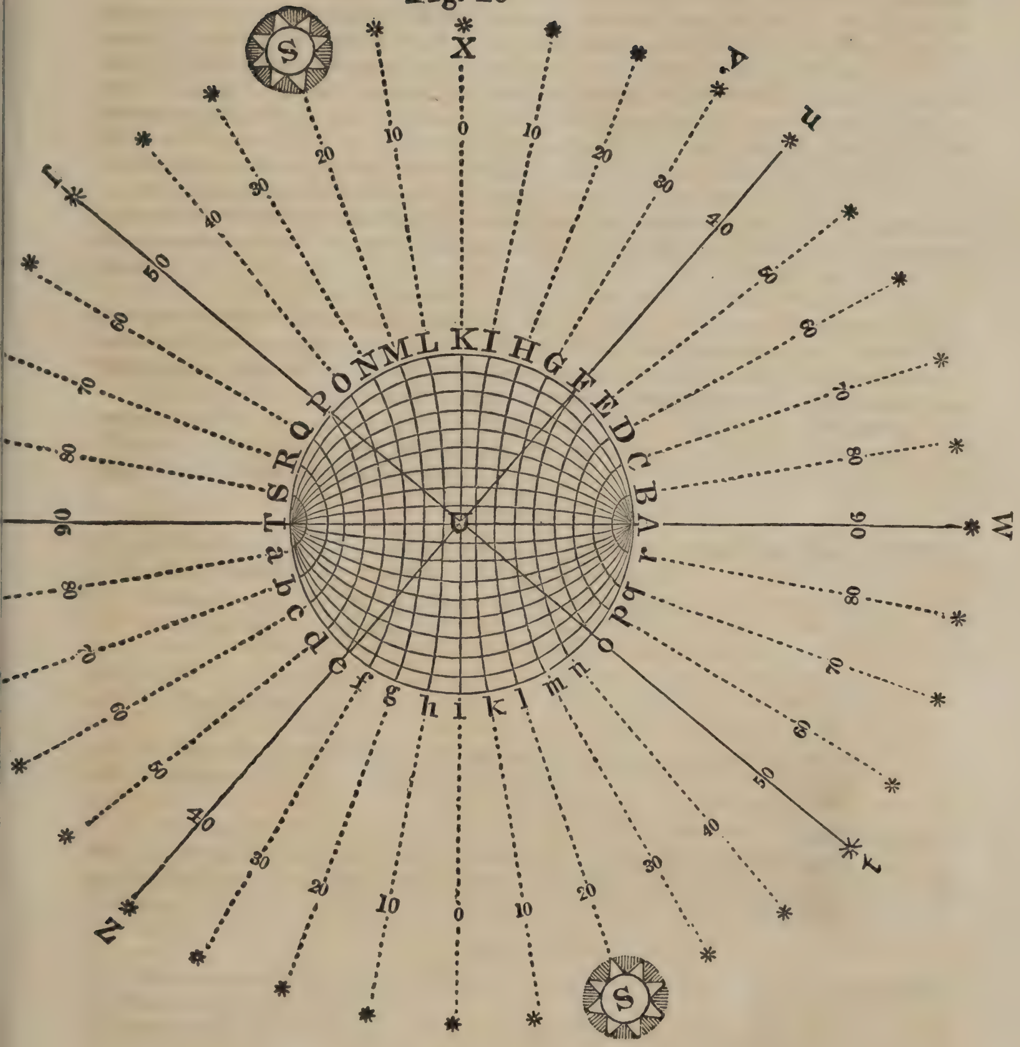
This is evidently correct; for, if this distance is over 6, and less than 12, the star would be between g n, (fig. 38,) and approximating to the lower meridian n. If more than 12 hours, and less than 18 hours, subtract 12 hours from it; and the remainder is the star's distance from the meridian. In this case the star would have passed the lower meridian at n, and would be between n t, approaching its greatest eastern elongation, t. By subtracting 12 hours, we evidently should have the star's distance from the lower meridian n. And, finally, if the difference between the right ascension of the meridian and the star's right ascension is more than 18 hours, subtract it from 24 hours; and the remainder is the star's distance from the meridian. If more than 18 hours, the star is between t a. Therefore, by subtracting this difference, it evidently leaves the star's distance from the upper meridian a.

As respects the correction, it must be added to the observed altitude, if the difference between the right ascension of the meridian and the star's right ascension is more than 6, and less than 18 hours. By referring to fig. 38, it must be evident, that if the star's distance from the meridian be known at the time of observation, its distance on any line perpendicular to t P g, can be readily ascertained by the rule before given. For, suppose the star to be at b, or y, it is one hour from the upper meridian, in either case. At b it has passed the meridian, and approaching its greatest western elongation. But at y, the star is approximating to the upper meridian a; and, in either case, the correction is the same, and must be subtracted from the observed altitude, because the star is viewed above the celestial pole P. If the extent from the point at 1 b, in the circumference to the point in o, represented by the dotted line perpendicular to t P g, be taken in your compasses, it will be found equal to 93 miles on the large diagonal scale, which is the correction, when 1 hour from the meridian.

But if the star be observed when at m or o, the correction must be added to the observed altitude in either case, as it is viewed below the pole P, and the extent on the dotted line perpendicular to t P g, is precisely the same, viz. 93 miles.

Let us again consider the earth's diurnal motion to be according to the order

Fig. 40


S
X
V
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30
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50
60
70
80
90
A B C D E F G H I K L M N O P Q R S T
a b c d e f g h i k l m n o p q r

of the letters A B C D, &c., (fig. 37,) and ascertain to what point the star would be referred in its apparent path around the pole (fig. 38) by an observer on the earth. Let us begin at A, (fig. 37.) A would refer the star on the upper meridian to a, (fig. 38,) B to b, C to c, D to d, E to e, F to f, and G to g, in a due West line with P, the pole; consequently there could be no correction, the star being at an equal altitude with P, the pole. H to h, I to i, K to k, L to l, M to m, and N to n, and of course the greatest possible correction additive, equal to the star's North polar distance, viz. 96 miles. O to o, P to p, Q to q, R to r, S to s, T to t, being at its greatest eastern elongation, and in a line with P, the pole, and at the same altitude, and of course there can be no correction. And, finally, U to u, V to v, W to w, X to x, Y to y, and A again to a, having the greatest possible correction subtractive, equal to the star's North polar distance, 96 miles.

Let us endeavor to illustrate the whole principle by a few examples.

It will be sufficiently near to take the sun's right ascension from the N. Almanac, for the nearest noon, but in strictness it should be reduced to the hour of observation. h. ′ ″

The sun's right ascension on the 23d of September, 1830, is 11 59 43 $\frac{3}{10}$, the star's right ascension * is 1h. 0 m. 43 sec. $\frac{89}{100}$; its annual variation in right ascension is 15 seconds $\frac{19}{100}$ additive; its North polar distance is 1° 35′ 46″ $\frac{5}{10}$; the annual variation of its North polar distance is 19 seconds $\frac{4}{10}$ subtractive.

Now, in the following examples, we shall suppose the sun's right ascension to be exactly	12 hours.
The star's right ascension 15 degrees, or one hour,	1 hour.
The star's North polar distance,	1° 36′

EXAMPLE 1.

Let it be required of an observer at A, (fig. 37,) on the 23d Sept. 1830, at 1 A. M. to find the correction of the star's altitude.

Sun's right ascension, Sept. 23, Naut. Almanac, is	12 hours
Time at A, 1 A. M., or	13 "
	25 sum.
From which subtract	24 hours.
The remainder is the right ascension of the meridian,	1 "
Right ascension of the polar star is	1 "

Difference is 0 the star is on the upper meridian at A, and the correction is equal to the star's North polar distance, subtractive, which is the distance from the point in P, to the point in the circumference a, and will be found equal to 96 miles on the large diagonal scale.

EXAMPLE 2.

Let it be required of an observer at B, fig. 37, at the same time to find this correction.

Sun's right ascension,	12 hours.
Time at B is 2 A. M., or	14 "
Sum,	26
From which subtract	24 hours.
The remainder is the right ascension of the meridian at B,	2
Star's right ascension,	1
	1 hour star's dist.

---

* The star's right ascension and North polar distance may be found in the Nautical Almanac, under the head *Polaris*.

from the meridian, which is equal to 15°, with which enter table 2, (Bowditch's Navigator,) as a course, and the star's North polar distance 96 miles in the distance-column, opposite to which, in the latitude-column, will be the correction 92.7, and is equal to the distance from the point in circumference at b, to the point in o perpendicular to t P g.

EXAMPLE 3.

Let it be required of an observer at I (fig. 37) to find the correction.

Sun's right ascension,	12
Time at I is 9 A. M., or	21
Sum,	33
From which subtract	24
Right ascension of the meridian,	9
Polar star's right ascension,	1
	8 this difference
Is more than 6 hours and less than	12

4 hours; star's distance from the lower meridian, which is equal to 60 degrees; with which enter table 2 as a course, and the star's North polar distance in the distance-column, opposite to which, in the latitude-column, will be the correction, which is 48 miles, and is equal to the distance from the point in the circumference at i, to the point in o, perpendicular to the line t P g, measured on the large diagonal.

EXAMPLE 4.

Let it be required of an observer at P (fig. 37) to find the correction.

Sun's right ascension,	12 hours.
Time at P,	3 P. M.
Right ascension of the meridian at P,	15
Star's right ascension,	1
	14 this difference is more than 12, and less than 18 hours.
Subtract from ,	12 hours.

2 hours' star's distance from the lower meridian at P, which is equal to 30 degrees, with which enter table 2 as before, and the correction will be found equal to 83 miles and one tenth, and is the distance from the point in the circumference at p, to the point in o, perpendicular to t P g additive. (Fig. 38.)

EXAMPLE 5.

Let it be required of an observer at W, to find this correction. (Fig. 37.)

Sun's right ascension,	12
Time at W is 10 P. M.,	10
Right ascension of the meridian at W,	22
Star's right ascension,	1
	21 hours, this differ-
ence is more than 18 hours, and less than 24 hours; subtract it from	24 hours.
	3 the star's distance

from the upper meridian, which is equal to 45 degrees, with which enter table 2 as before, and the correction will be found equal to 67 miles and nine-tenths, and is the distance from the point in the circumference at w, to the point in o, perpendicular to t P g., (fig. 38.)

To such as are unacquainted with Trigonometry, it may appear strange, that they should be referred to a table of difference of latitude and departure, to find the correction to the star's altitude: this table answers all our purposes, and has the advantage in being entered with the star's distance in degrees from either meridian, and taking the correction therefrom without any further trouble. But, in order that the whole principle be understood by those who have a desire to become acquainted with it, we will go through the first quadrant of the star's apparent motion, viz. from a to g, by trigonometry.

Example 1.—(*Fig.* 39.)

To find the correction to the star's altitude at b, one hour or 15 degrees from the upper meridian.

As radius,	10.00000
Is to the star's North polar distance, 96 miles,	1.98227
So is the sine of the complement of the angle a P b 75°, or its co-sine 15,	9.98494
To the correction when one hour from either meridian $92\frac{73}{100}$,	1.96721

Now it is evident, that b u is the sine of the arch b a, or the sine of the angle a P b, and P u its co-sine, and is equal to b m, fig. 39.

Example 2.—(*Fig.* 39.)

To find the correction at c, 2 hours or 30° from the meridian.

As radius,	10.00000
Is to the star's North polar distance, 96 miles,	1.98227
So is the sine of the complement of the angle a P c 60° or its co-sine 30°,	9.93753
To the correction when two hours from either meridian $83\frac{14}{100}$,	1.91980

c t is the sine of the arch c a, and P t its co-sine, and is equal to c l.

Example 3.—(*Fig.* 39.)

To find the correction at d, 3 hours or 45° from the meridian.

As radius,	10.00000
Is to the star's North polar distance, 96 miles,	1.98227
So is the sine or co-sine of angle a P d 45,	9.84949
To the correction 3 hours from either meridian $67\frac{88}{100}$,	1.83176

d s is the sine of the arch d a, and P s its co-sine; hence the sine and co-sine are equal.

Example 4.—(*Fig.* 39.)

To find the correction at e, 4 hours or 60° from the meridian.

As radius,	10.00000
Is to the star's North polar distance, 96 miles,	1.98227
So is the sine of the complement of angle a P e 30°, or co-sine 60°,	9.69897
To the correction 4 hours from either meridian 48 miles,	1.68124

e r is the sine of the arch e a, and P r its co-sine, and is equal to e i.

To find the correction at f, 5 hours or 75° from the meridian.

As radius,	10.00000
Is to the star's North polar distance, 96 miles,	9.98227
So is the sine of the complement of angle a P f 15°, or co-sine 75°,	9.41300
To the correction 5 hours from either meridian 24 $\frac{85}{100}$,	1.39527

f q is the sine of the arch f a, and P q its co-sine.

By the Table.	*By Trigonometry.*
15° $= 92\frac{7}{10}$	15° $= 92\frac{73}{100}$
30° $= 83\frac{1}{10}$	30° $= 83\frac{14}{100}$
45° $= 67\frac{9}{10}$	45° $= 67\frac{88}{100}$
60° $= 48$	60° $= 48$
75° $= 24\frac{8}{10}$	75° $= 24\frac{85}{100}$

To ascertain the rate of the Chronometer by means of the acceleration of the Fixed Stars.

It sometimes happens that a person, being desirous of ascertaining the rate of a Chronometer, is so situated that the altitude of a heavenly body cannot be ascertained. In this case, the acceleration of the fixed stars will afford him a very simple and easy method as well as a very correct one, for this particular purpose. For if, through a small hole in a window-shutter, or thin plate of metal fixed to a window, we observe at what time any star disappears behind a chimney or corner of a house, at a little distance; and if the same star disappear the next night 3 minutes, 56 seconds sooner by the chronometer; and, on the second night, 7 minutes, 52 seconds sooner; the third night 11 minutes, 48 seconds sooner; and so on, every night, it is an infallible proof that the machine goes true; otherwise, it does not go true. And, as the disappearing of a star is instantaneous, we may depend upon this information to a half second of time.

A PERPETUAL WEATHER TABLE....*By Dr. Herschel.*

The following table, constructed by that celebrated astronomer, Dr. Herschel, upon a philosophical consideration of the attraction of the sun and moon, in their several positions as to the earth, and confirmed by the experience of many years' actual observation, may, without doubt, suggest to the observer what kind of weather will probably follow the moon's entrance into any one of her quarters, and that so near the truth that it will be very seldom found to fail.

		SUMMER.	WINTER.
If it be new or full moon, or the moon enters into the first or last quarter, at the hour of 12 at noon,		Very Rainy.	Snow or Rain.
Between the hours of			
Afternoon,	2 and 4	Changeable.	Fair and mild.
	4 and 6	Fair.	Fair.
	6 and 8	Fair, if wind N. W. Rainy, if S. or S. W.	Fair and frosty, if wind N. or N. E. Rain or snow, if S. or S.W.
	8 and 10	Ditto.	Ditto.
	10 and 12	Fair.	Fair and frosty.
	Midnight and 2	Fair.	Hard frost, unless wind S. or S.W.
Forenoon,	2 and 4	Cold, with frequent showers.	Snow, and very stormy.
	4 and 6	Rain.	Ditto.
	6 and 8	Wind and Rain.	Stormy.
	8 and 10	Changeable.	Cold rain, if wind W. Snow, if E.
	10 and 12	Frequent showers.	Cold, with high wind.

From the foregoing table, it will be seen that the nearer to midnight the moon's periodical changes happen, (that is, within two hours either before or after it,) the fairer the weather is in summer; while the nearer to noon that the changes take place, the fouler the weather. Fair weather may also follow, when the periodical changes occur during the afternon six hours, namely, from four to ten; but this is mostly dependent on the wind.—The moon's entrance during all the hours after midnight, except the first two, is unfavorable to fair weather. The like, nearly, may be observed in winter.

It appears that the effect of the moon on the weather was observed by Dr. Herschel, in England; therefore in the winter column with the wind at N. East, is said to be fair weather; but we should not infer from this that it would be fair with the wind at this point, in the northern section of our country at the same season.

ON THE PURIFICATION OF WATER.

"The most common expedient, for the purification of water, has been by quick-lime. This is equally effectual, whether slack or unslacked; but should always be carried slacked to sea, to obviate the danger arising from the heat which is envolved in the process of slacking. To counteract the bad taste of water in a state of putrefaction, vinegar and other vegetable acids are usually employed. Various methods have been used for purifying water by filtration. The dripping-stone is often used for this purpose, but for a large crew the quantity it affords is insufficient. Pouring it through gravel, or a layer of gravel and charcoal, will afford a more abundant supply. A very simple filtering machine is mentioned by Dr. Blane. Let the narrow mouth of a large funnel be filled with a bit of sponge, over which let there be a layer of clean gravel, or sand, covered with flannel, and over the whole another layer of sand. Muddy or offensive water being poured into this, runs or drops out clear; and care must be taken to change the sand, sponge, &c. frequently, as they will become loaded with the impurities of the water."

ON THE DISTILLATION OF SEA-WATER.

" When sea-water is boiled in a close covered pot or vessel, it may be observed that the steam arising from it is converted into fresh water on the inside of the cover or pot.

From a pot of thirteen inches diameter, by frequently removing the cover, and pouring off the water collected upon it, a gill of fresh water may be procured in an hour. The cover of the pot should be, at least, five or six inches above the surface of the sea-water, to prevent its boiling up to it.

Let us suppose a ship at sea to be in distress for want of water, having eight men on board, and that the pot for boiling their provisions can contain five gallons and a half, being twelve inches in diameter; by the following simple contrivance, with only a tea-kettle, a musket and a cask, one gallon of fresh water may be procured every three hours, which is a pint for each man.

File off the handle of the tea-kettle, and fix the head of the kettle, when inverted, into a hole made for that purpose in the cover of the pot; this will prove a complete still head. Take the barrel of the musket out of the stock, and after unscrewing the breeching pin, pass the barrel through the cask by two holes made on each side, with a proper descent for the distilled water to run off; then stop up the holes in the cask, and fill the cask with cold sea-water; which will be a refrigerator, or cooler, to condense the steam. In order to carry on the distillation, they should be joined by inserting the spout of the tea-kettle into the upper end of the musket barrel. All the joints and places from whence the steam could escape, should be luted or stopped up. A paste composed of equal parts of chalk and meal, moistened with salt water, will do this effectually, and may be easily obtained. The tea-kettle and cover of the pot should also be kept down by a weight, or stantooned down from the top of the camboose-house, to prevent the steam from forcing them up.

If the cask should be too near the fire, the musket-barrel, in which the steam is condensed, may be prolonged by the addition of the barrel of another musket, or by a wooden pipe. If the barrel of another musket be used, whose bore is not large enough to receive the extremity of the former, one end of it should be heated in the fire, and dilated with a marlin spike. If a wooden pipe be used, it should not be bored with a hot iron, as it is found by experience, that the burnt wood will impart a permanent, disagreeable taste to the distilled water.

If we may suppose a vessel at sea to have no tea-kettle on board, then let the wooden hand-pump, with which the water is pumped out of the casks, be cut through obliquely, and joined, so as to form an acute angle. One end of this tube should be fixed into the hole made in the cover of the pot, the other should be fastened to the musket barrel. By this, nearly the same quantity of water may be procured as by means of the tea-kettle.

It may be justly supposed, that the coppers used for boiling the provisions will in every ship contain more than the proportion of two quarts of water for every person on board. If these were furnished with proper still-heads, they would be sufficient to yield, in distillation, the proportion of three pints of fresh and wholesome water for each man. In a British ship, called the Dortsetshire, by means of a tea-kettle and musket-barrel, .twenty-two quarts of sea-water yielded nineteen quarts of fresh water, in four hours, at an expense of ten pounds of wood.

The distilled sea-water is purer than spring, river, or even rain water. The taste which it receives from the distilling vessel is, in some measure, lessened by throwing away the first running from the still; and is wholly removed by keeping the water for some time, or exposing it to the air, when it will be found excellent, well-flavored water, which will keep perfectly sweet for many years, if put into clean vessels.

In cases of extremity, such is the constitution of our body, that thirst may be alleviated, and the morbid consequences arising from a want of water obviated, by wetting the skin or surface of the body with sea-water, which becomes thus inhaled, and answers, in some degree, the common purpose of drink.

TO PREVENT SHIPS' FOUNDERING AT SEA.

The following account from the British Traveller seems to give ground to hope that the improvements of the age are going to remove at least a portion of the perils of those who go down to the sea in ships, and do business on the great deep. The lives and the property swallowed up by the ocean every year, amount to a fearful sum in the aggregate, and an invention that should diminish them by one half would confer a blessing upon the world, whose value would be too great for calculation.

"A very numerous meeting of the scientific world was held yesterday evening at the Royal Institution, Albemarle street, it having been announced that Mr. Watson would deliver a lecture on the mode of preventing ships' foundering at sea. On entering the Theatre, the first thing that met the eye were two large tin reservoirs, filled with water, and over one of them was suspended a beautiful model of an eighty-gun ship, and other apparatus, intended to demonstrate the practicability of the plan proposed. The lecturer, Mr. Watson, proceeded to state the details of his plan. In one of the reservoirs was placed a tube filled with air. This floated, though one hundred and a half in weight was placed on it. He then proceeded to make experiments on the model of the eighty-gun ship, which was loaded with a weight to be equal to having on board the full complement of men, provisions, &c. for a four months' voyage. A leak was sprung in the bottom of the vessel, and she gradually sunk. The model was then filled up with the air tubes, and the water was again let in, but the model would not sink. The lecturer turned the model topsy turvy, but it instantly righted; he afterwards forced it down below the surface of the water, but it instantly sprung up, the decks being quite free of water. He then placed a mast, loaded with one pound of lead at the top, which was equal to fifty tons, as compared with the relative size of the model, and though the mast was brought down to the level of the water, the model instantly righted. Thus it was demonstrated that any vessel having the tubes could not sink. The lecturer then took retrospective and perspective views of the British Navy. Since 1793, 373 vessels of war had been lost, viz. 283 wrecked, 67 foundered, and 13 burnt, mounting 8000 guns; which, at £1000 a gun, had been a loss to the country of £8,000,000; and 7700 seamen had perished. The navy now consisted of 800 gun-ships, with 3500 guns, which were equal to 3½ millions of money. These vessels could be fitted up, so that no impediment should be offered, at the rate of £4000 per vessel; and the tubes being of copper, would yield nearly the whole amount a century hence. The safety tubes could be fitted in a King's ship at five shillings per cent.; in an East Indiaman at three shillings per cent.; in a West Indiaman at twenty pence per cent.; and in general traders at two shillings per cent. on the value of the ship and cargo.

"The vessel so fitted up would require 250 tons above her register to sink her, affording a perfect life-ship to crew and cargo; and if wrecked, every part of the vessel would become a life-boat. The Russian, the American, and the French Government had the plan under consideration, and also the King of the Netherlands. The lecturer expressed his perfect conviction that ships so fitted up would never sink. The lecture was received with marked attention, and elicited great applause."

EXCHANGE.

Exchange is the act of paying or receiving the money of one country for its equivalent in the money of another country, by means of Bills of Exchange. This operation, therefore, comprehends both the reduction of monies and the negotiation of bills; it determines the comparative value of the currencies of all nations, and shows how foreign debts are discharged, loans and subsidies paid, and other remittances made from one country to another, without the risk, trouble, or expense of transporting specie or bullion.

BILLS OF EXCHANGE.

A Bill of Exchange is a written order for the payment of a certain sum of money at an appointed time. It is a mercantile contract, in which four persons are mostly concerned, viz.

1. The *Drawer*, who receives the value, and is also called the *Maker* and *Seller* of the bill.
2. His debtor in a distant place, upon whom the Bill is drawn, and who is called the *Drawee.* He also is called the *Acceptor*, when he accepts the Bill, which is an engagement to pay it when due.
3. The person who gives value for the Bill, who is called the *Buyer*, *Taker*, and *Remitter.*
4. The person to whom it is ordered to be paid, who is called the *Payee*, and who may, by indorsement, pass it to any other person.

Most mercantile payments are made in Bills of Exchange, which generally pass from hand to hand, until due, like any other circulating medium; and the person who at any time has a Bill in his possession, is called the *Holder.*

When the *Holder* of a bill disposes of it, he writes his name on the back, which is called *Indorsing;* and the *Payee* should be the first *Indorser.*

If the Bill be indorsed in favor of any particular person, it is called a *Special Indorsement*, and the person to whom it is thus made payable, is called the *Indorsee*, who must also indorse the Bill, if he negotiates it. Any person may indorse a Bill, and every Indorser (as well as the Acceptor or Payee) is a security for the Bill, and may, therefore, be sued for payment.

The term of a Bill varies, according to the agreement between the parties, or the custom of countries.

Some Bills are drawn at sight; others at a certain number of days or months after sight, or after date; and some at *Usance*, which is the customary or usual term between different places.

Days of Grace, are a certain number of days granted to the Acceptor after the term of a Bill is expired. In the British dominions 3 days are allowed.

In reckoning when a Bill, payable after *date*, becomes due, the day on which it is dated is not included; and if it be a Bill payable after *sight*, the day of presentment is not included. When the term is expressed in months, calender months are understood; and when a month is longer than the succeeding, it is a rule not to go, in the computation, into a third month.

Thus, if a Bill be dated the 28th, 29th, 30th or 31st of January and payable one month after date, the term equally expires on the last day of February, to which the days of grace must, of course, be added; and, therefore, the Bill becomes due on the 3d of March.

No Bill of exchange drawn in Great Britain or Ireland can be negotiated, presented for payment, or in any way admitted as good in these countries, that is not written on a proper stamp; and any person drawing, accepting, or paying such a Bill is liable to a penalty.

LAWS OF EXCHANGE.

☞ *The following Laws have been selected from the first legal authorities, and likewise examined and approved by several experienced merchants, bankers, and notaries; and though these Laws apply chiefly to the British Dominions, yet they do not differ essentially from the regulations of other commercial countries, with respect to* Accepting, Indorsing, Paying, Protesting, *and* Recovering Bills.

ACCEPTING BILLS.

When a bill is presented for acceptance, it is generally left until the next day; and the common way of accepting is, for the Drawee to write his name at the bottom or across the body of the bill, with the word *accepted.* An acceptance, however, in a slighter way, has been heretofore deemed binding; thus, had the Drawee written his name upon any part of the bill, or the initials of his name, or the day of the month, or merely the word *accepted*, he was considered liable; but by an Act of the British parliament, passed in 1819, it was declared, "that no person shall be bound or charged as Acceptor of an Inland or Foreign Bill of Exchange, otherwise than by an acceptance of such Bill of Exchange written thereon, or on some one part of such Bill, if the same shall consist of more than one part." When two or more persons are in partnership, the acceptance of one binds all the others, if the Bill concerns their joint trade; but if it should be made known to the person who receives the Bill that it concerns the Acceptor only in a distinct interest, he alone, as acceptor, can be sued.

A Clerk, or servant, may accept a bill for his master, when he has authority for that purpose, or if he usually transacts business of this nature for him; and his acceptance binds the master.

But if the Bill be drawn nominally on the servant, directing him to place it to the account of his master, and if the servant should accept it generally, without specifying that he does it for his master's account, the acceptance binds the servant only, and not his employer.

When a Bill is drawn for the account of a third person, and is accepted as such, and he fails without making provision for its payment, the Acceptor must discharge the Bill, and can have no recourse against the Drawer. A Bill may be accepted to be paid at a longer period than is mentioned in the Bill, or to pay a part of the sum only. Such an acceptance is binding on him who makes it; but the Holder is at liberty to take it as it is offered, or to act as if acceptance had been entirely refused.

The acceptance may direct payment to be made at a place different from that mentioned in the Bill, as at the house of a banker; in which case, if the Holder should neglect to demand payment within a reasonable time, and the banker should afterwards fail, the Holder must sustain the loss.

When a bill has been once accepted, the acceptance cannot be revoked, though the Drawer should be found to have failed before the date of the acceptance.

Bills payable to bearer, are transferred by simple delivery, and without any indorsement; but, in order to transfer a Bill payable to order, the Holder must express his order of paying to another person, which is always done by an indorsement.

An indorsement may be blank or special. A *blank indorsement* consists only of the Indorser's name, and the Bill then becomes transferable by simple delivery; a *special indorsement* orders the money to be paid to some particular person, or to his order; a blank indorsement may always be filled up with any person's name, so as to make it special; an indorsement may take place at any time after the bill is issued, even after the day of payment is elapsed. A person who receives a Bill with a blank indorsement may take it as Indorsee, negotiate it again, or demand payment on his own account, or he may receive the money as agent, or for the account of the Indorser; and the latter, notwithstanding his indorsement, may still appear as Holder in an action against the Drawer or Acceptor.

A special indorsement need not contain the words *to order*, and the Bill is negotiable; it may also be restrictive, giving authority to the Indorsee to receive the money for the Indorser, but not transfer the Bill again to another.

An indorsement for part of the money only is not valid, except with regard to him who makes it: the Drawer and Acceptor are not bound by it. When the Holder of a bill dies, his Executors may indorse it; but, by so doing, they become answerable to their Indorsee personally, and not as Executors.

PAYING BILLS.

Bills should be presented for payment, as well as for acceptance, during the usual hours of business, which are generally considered to be from nine o'clock in the morning till six in the evening. The common mode of payment among merchants is by a draft on a banker for the exact amount of the bill, and signed by the Drawee; but any paper whatever may be refused, except Bank of England notes; and the Bank receives no other.

PROTESTING BILLS.

When acceptance or payment has been refused, the Holder of the Bill should give regular and immediate notice to all the parties, to whom he intends to resort for payment; and, if, on account of unnecessary delay, a loss should be incurred by the failure of any of the parties, the Holder must bear the loss.

With respect to the manner in which notices of non-acceptance or non-payment are to be given, a Protest is indispensably necessary: thus, a Public Notary is to appear with the Bill, and to demand either acceptance or payment; and on being refused he is to draw up an instrument, called a *Protest*, expressing that payment or acceptance has been demanded and refused, and that the Holder of the bill intends to recover any damages which he may sustain in consequence.

This instrument is admitted, in foreign countries, as a legal proof of the fact. The protest on a foreign Bill should be made in time to be sent off by the first conveyance to the place where it was drawn or negotiated; and if it be for non-payment, the Bill must be sent with the Protest. If the person who is to accept, has absconded, or cannot be found at the place mentioned in the Bill, Protest is to be made in the same manner as if acceptance had been refused.

When an original Bill is lost, and another cannot be had of the Drawer, a Protest may be made on a copy; but if a Bill left for aceptance be lost, the person with whom it was left must bind himself to payment, or else a Protest may be made out immediately.

It is customary, as a precaution against accident or miscarriage, to draw three copies of a foreign Bill, and to send them by different posts. They are denominated the *First*, *Second* and *Third of Exchange;* and when any one of them is paid, the rest become void and of no value.

When the Acceptor of a Bill becomes insolvent, or absconds before the term of payment is expired, the Holder may cause a Notary to demand better security, and, on that being refused, to Protest the Bill for want of it.

In such cases, however, the most general practice is to wait the regular time till the Bill becomes due.

The damages incurred by non-acceptance and non-payment, besides interest, consists usually of the Exchange, re-exchange, commissions, and postage, together with the expenses of Protest and interest.

The Exchange is reckoned according to the course at sight, from the place where the Protest is made to the place where the bill is to be paid by the Drawer; and if it be not paid there, the re-exchange is then reckoned from the same place to that where the Bill is paid, and also double commission. The interest commences from the day when the demand was made.

After a Bill has been Protested, it is sometimes accepted by a third person, to save the reputation of the Drawer, or of an Indorser; such an acceptance is called an acceptance *Supra Protest.* The Acceptor then must appear in person, with witnesses, before a Notary, and declare that he accepts it for the honor of such a person, and subscribe the Bill thus:—Accepted, *Supra Protest* in honor of, &c.

The same may happen when the person on whom a Bill is drawn, having doubts about the Drawer, Protests it, but afterwards accepts it for the honor of one of the Indorsers; in this case the Protest must be sent to the said Indorser without delay.

The person for whose honor a Bill was accepted, must reimburse the Acceptor the amount of the Bill, commissions, and other charges, even though the acceptance should have taken place without his knowledge. If such a person approves of the acceptance, the Bill may be paid without any further Protest; but if he should return no answer, or express his disapprobation of the acceptance, the Bill must be formally protested for non-payment, against him to whom the Bill was directed; and, on his persisting to refuse payment, the Acceptor may safely pay it for his account, as he can recover the amount.

RECOVERING BILLS.

The Drawer, Acceptor, and every Indorser of a Bill, are equally liable to the payment of it; and though the Holder can have but one satisfaction, yet, until such satisfaction is actually had, he may sue any of them, or all of them, either at the same time or in succession, and obtain judgment against them all, till satisfaction be made. Proceedings cannot be staid in any action, but on payment of the debt and of the costs, not only in that action, but in all the others in which judgment has not been obtained; and though the principal sum should be paid by one of the parties, still costs may be recovered in the several actions against the others.

When acceptance is refused, and the Bill is returned by Protest, an action may be commenced immediately against the Drawer, though the regular time of payment be not arrived. His debt, in such a case, is considered as contracted the moment the Bill is drawn: thus, if before the Bill is returned, the Drawer should become a bankrupt, the debt was contracted before the commission of bankruptcy took place.

Nothing will discharge an Indorser from his engagement but the absolute payment of the money; not even a judgment recovered against the Drawer or any previous Indorser, or an execution against any of them, unless the money be paid in consequence.

The Holder of a Bill, in order to entitle himself to recover against an Indorser, needs not show that he has made a previous attempt to recover from the Drawer. If any Bill happens to be lost within the time limited for payment, the Drawer is to give another of the same tenor with the first; the person, however, to whom this new Bill is delivered, must give security to indemnify the Drawer against all persons whatsoever, in case the lost Bill should be found.

When a person has indorsed a Bill, and it is re-indorsed to him, he cannot maintain an action against the person to whom he indorsed it.

He that has accepted and duly paid a Bill, without having in his hands any effects of the Drawer, may recover in an action for money paid and laid out for the use of the Drawer.

In an action against the Acceptor of a Bill, it is a general rule that the Drawer's hand-writing is admitted, because the Acceptor is always supposed to be acquainted with the hand-writing of the person whose Bill he accepts; but if the same Bill has been indorsed, the hand-writing of the Indorser or Indorsers must be proved: in case of a blank indorsement, however, the hand-writing of the first Indorser is sufficient. The same takes place in an action by an Indorser against the Drawer.

Proof of the Signature of a Servant is sufficient to bind the Master, when it is proved that the Servant has authority to draw, accept, or indorse Bills in his Master's name; and a subsequent assent is considered as evidence of such authority. A general custom of the Servant's Signature and the payment of the Master is likewise a sufficient proof of a general authority; and this will continue to bind the Master until his determination to the contrary can be generally known.

PAR OF EXCHANGE.

The Par of Exchange may be considered under two general heads, viz. the *Intrinsic Par* and the *Commercial Par*, each of which admits of subordinate divisions and distinctions.

The *Intrinsic Par* is the value of the money of one country compared with that of another, with respect both to weight and fineness.

The *Commercial Par* is the comparative value of the monies of different countries according to the weight, fineness, and market prices of the metals.

Thus two sums of different countries are *intrinsically* at par, when they *contain* an equal quantity of the same kind of pure metal; and two sums of different countries are *commercially* at par, when they can *purchase* an equal quantity of the same kind of pure metal.

COURSE OF EXCHANGE.

The Course of Exchange is the variable price of the money of one country, which is given for a fixed sum of the money of another country; the latter is called the *certain*, and the former the *uncertain* price.

When London merchants want to draw or remit Foreign Bills, they meet upon the Royal Exchange, where this kind of business must be transacted.

They are distinguished into two classes, called *Drawers* and *Remitters;* the former are also called *Sellers* of Bills, and the latter *Buyers* or *Takers*, and, like buyers and sellers of all other articles, their interests are opposite. The market is constantly attended by Exchange Brokers, who generally bring the parties together, and settle the price of Exchange for the day, when they have learnt how the market stands with respect to the wants or offers of Buyers and Sellers. It should be observed that the prices of Bullion and Exchange reciprocally determine, or at least influence each other.

When the market price of Foreign Bills is above par, the Exchange is said to be favorable to the place that gives the certain for the uncertain, and the contrary; thus, if the par between London and Hamburgh be computed at 35 Shillings Flemish, for 1 Pound Sterling, and the Course of Exchange is at 36 Shillings, the Exchange is said to be in favor of London, and against Hamburgh; and the contrary, of course, takes place, if the price be under par. It should, however, be recollected, that when the Exchange is favorable to a place, it is only so to the Buyers and Remitters of Bills; but it is unfavorable to the Drawers and Sellers.

Thus the interest of the Remitter is identified with that of the place where he purchases the Bill, and the interest of the Drawer with that of the place where his funds are established and on which he draws.

It is natural to inquire why such prices are considered favorable or unfavorable, if the Drawers and Remitters, whose interests are opposite, are natives of the same country? The usual answer is, that when the Exchange is against a place, it becomes the interest of Remitters to pay their foreign debts in Specie or Bullion, instead of Bills; and the exportation of the precious metals is often considered a national disadvantage.

The fluctuations of Exchange, are occasioned by various circumstances, both political and commercial. The principal cause is generally stated to be the Balance of Trade: that is, the difference between the commercial exports and imports of any one country with respect to another. Experience, however, shows that the Exchange may be unfavorable to a country, when the Balance of trade is greatly in its favor; for the demand for Bills must chiefly depend on the balance of such debts as come into immediate liquidation; that is to say, on the *Balance of Payments.*

Besides, it does not follow that large Exports are always successful, or quick in their returns. And even should it be the case, the Balance of Payments may be still unfavorable from political causes; such as foreign Loans, Subsidies, Expeditions, or Colonial Establishments. Rich countries are often liable to have the Exchange turned against them, by the sums which they may have to remit to less opulent states, on account of their importations of luxuries. When any alteration takes place in the Coin, or Currency of a country, the Exchange will of course vary, so as to keep pace or correspond with such alteration. This, however, cannot be considered a change in the price of Bills, but in the Money in which they are bought or sold. In times of peace, the course of Exchange seldom remains long unfavorable to any country, at least beyond the expenses that might be incurred by the transportation of the precious Metals; for Bullion is considered the universal Currency of Merchants, and Exchange gives it circulation, and thus tends to maintain the level of Money throughout the commercial world.

Although an unfavorable Course of Exchange is generally considered a disadvantage to the place where it prevails, yet the opinion is not always well founded, as much depends on the quantity of Bullion or Specie which the Country may have to spare. And there is another consideration that renders the question sometimes doubtful, which is, that an unfavorable rate of Exchange operates as an encouragement to the Exportation of Goods, and as a check against the Importation. For the Exporter can afford to sell the Goods cheaper, in proportion to the Premium which he receives for his Bill. While, on the contrary, the Discount on Bills from abroad operates as a Tax, or Duty, on Importations. Thus, Exchange has a natural tendency to correct itself, and may be considered, in ordinary times, as vibrating to restore an equilibrium.

USANCES, AND OTHER CUSTOMS,

RELATING TO BILLS OF EXCHANGE, IN THE

PRINCIPAL COMMERCIAL CITIES IN THE WORLD.

AMSTERDAM.

Usances are in general one month after date, and days of grace, which are nominally six, are seldom taken.

AUGSBURG—(In Germany.)

The usance is 15 days; half usance 8 days; double usance 30 days; 1½ usance 23 days after sight.

The payment of Bills of Exchange in Augsburg is generally settled at the *Scontro*, which takes place every Tuesday; and then they are paid on the Wednesday, either in cash, or in assignations, or drafts. Thus, bills have from 1 to 8 days' grace; for such as fall due on the Tuesday must be paid the next day: but such as fall due on the Wednesday are not paid till that day week.

Bills, however, drawn *a vista*, or at sight, must be paid within 24 hours after being presented; as also any other bills which are not presented until after the Wednesday subsequent to the day on which they become due.

BREMEN.

The usance for bills drawn from the other parts of Germany is 14 days' sight; from London and Paris, one month after date. The days of grace are 8; but for promissory notes, and bills at short sight, no days of grace are allowed.

BERLIN—(In Prussia.)

The usance for bills drawn on Berlin, is 14 days after acceptance. Berlin draws on Amsterdam, Breslau, Hamburgh, and Leipsic, at 4 or 5 weeks' date, and at sight; on London and Paris at 2 months' date. The days of grace, by the edict of 1751, are three; but if the third day should fall on a Sunday or holiday, (or on a Saturday for Jews,) the bill must be paid on the preceding day; and should all the three days be holidays, the bill must be paid on the very day on which it is made payable; but a Protest for non-payment of such a bill may be delayed without any danger to the holder, till the last day of grace.

BRESLAU.

The usance for bills drawn on Breslau is 14 days after acceptance; half usance 8 days; and the days of grace are three. For bills, however, payable at the fairs, no days of grace are allowed; but such bills must be settled on the last day of payment in those fairs, or else be protested.

Breslau draws on Amsterdam and Hamburgh at sight, or at 4 or 5 weeks' date; on Berlin and Konigsberg, at sight, or 8 or 12 days' date; on Vienna, Leipsic, and other parts of Germany, at usance of 14 days' sight; on Paris and London, at 2 or 3 months after date.

CONSTANTINOPLE—(In Turkey.)

Bills between Constantinople and the principal trading places of Europe, are commonly drawn at 31 days' sight; but from one place in Turkey on another, at 11 days' sight. Some European merchants pay their bills on the very day on which they become due; and others take as many days grace as are allowed in their own countries respectively.

Bills are sometimes dated in the Turkish way.

COPENHAGEN—(In Denmark.)

The transactions relating to exchanges are generally made in Danish currency; (which includes bank notes;) but most of the foreign exchanges are regulated by those of Hamburgh, bills drawn on Copenhagen being sometimes made payable in Hamburgh banco. There is no established Usance; but bills are made payable on a certain day. Eight days' grace are allowed; and if bills be not paid within that time, they may be protested immediately, and the protest cannot be delayed beyond the tenth day, otherwise the holder of the bill is to bear all risks and expenses. The days of acceptance and protest, as also Sundays and holidays, are included in the ten days; but in Altona, bills may be protested on the eleventh day.

DANTZIC.

The usance is 14 days after acceptance. The days of grace are ten; and when the tenth day falls on a Sunday or holiday, the bill must be paid on the preceding day. But bills at sight, or such as are presented after the days of grace are elapsed, must be either paid or protested within 24 hours after being presented, which may be done even on a Sunday. Bills at 14 days' sight have three days' grace allowed. Bills drawn in Dantzic, cannot be negotiated there a second time, but must be remitted by the first holder to the place on which they are drawn.

FRANCE.

Throughout France, the usance of bills is 30 days, not including the date. Bills are drawn at several days' sight, or at a fixed day, at usance, at double usance, and at several usances.

Since the first of January, 1808, no days of grace have been allowed in France; and every bill must be paid on the same day that it becomes due. There is, however, in certain cases, a very liberal allowance of time, called *Delais*, which, with various other regulations, are explained in the following laws of Exchange, extracted from the *Code de Commerce.*

Art. 125. A bill of exchange must be accepted on presentation, or at latest within 24 hours after presentation. Non-acceptance is proved by an Act called *Protet faute d'acceptation.*

Art. 130. A bill of exchange at sight is payable on being presented.

Art. 131. The expiration of a bill of exchange at one or more days, at one or more months, at one or more usances, or at sight, is fixed by the date of acceptance, or by that of the Protest in default of acceptance.

The months are those fixed by the Gregorian Calendar.

Art. 133. A bill of exchange payable at a fair, becomes due on the eve of the day fixed for the close of the fair, or on the day of the fair if it last only one day.

Art. 134. If a bill of exchange falls due on a legal fair-day, it is payable on the eve of that day.

Art. 160. The holder of a bill of exchange drawn from the continent, or from the islands of Europe, and payable in the European possessions of France, either at sight or at one or more days, months, or usances at sight, must demand payment or acceptance within six months of its date, under penalty of losing all claim on the endorsers, and even on the drawer, if the latter has made provision.

The *delai* is eight months, for bills of exchange drawn from the Levant, and from the northern coasts of Africa, on the European possessions of France; and reciprocally from the continent and the islands of Europe, on the French establishments on the Levant, and on the north coasts of Africa.

The *delai* is one year for bills of exchange, drawn from the western coasts of Africa, as far as, and including, the Cape of Good Hope. One year is also allowed for bills drawn from the continent, and islands of the West Indies, on the European possessions of France; and reciprocally from the continent and islands of Europe, on the French possessions or establishments on the western coast of Africa, and the continent and islands of the West Indies.

The *delai* is two years for bills of exchange drawn from the continent and islands of the East Indies, on the European possessions of France; and reciprocally from the continent and islands of Europe, on the French possessions or establishments on the continent and islands of the East Indies.

The same penalty shall take place aginst the holder of a bill of exchange at sight, at one or more days, months, or usances at sight, drawn from France, or from the French possessions or establishments, and payable in foreign countries, if he do not demand payment or acceptance within the *delais* above prescribed for each of the respective distances.

The above *delais* of eight months, one year, or two years, are doubled in case of a maritime war.

The above regulations, however, shall not prejudice any contrary stipulations that may intervene between the taker, the drawer, and even the indorsers.

The holder of a bill of exchange must demand payment the day that the term expires.

Refusal of payment must be proved the morning after the day of expiration, by an Act called *Protet faute de paiement.* If this day falls on a legal fair-day, protest is made the following day.

The holder is not excused from making protest in case of non-payment, either by the protest in case of non-acceptance, or by the death or failure of the person on whom the bill of exchange is drawn.

In case of the failure of the acceptor before the term of the bill expires, the holder may protest and bring his action.

Bills of exchange drawn from France, and payable beyond the continental territory of France in Europe, being protested, the drawers and indorsers residing in France, shall be sued within the following *delais:*

Two months for bills payable in Corsica, the Isle of Elba or Capraia, England, and the States on the confines of France.

Four months for bills payable in other European States.

Six months for bills payable in the ports of the Levant, and the northern coasts of Africa.

One year for bills payable in the western coasts of Africa, extending as far as, and including the Cape of Good Hope, and also in the West Indies.

Two years for bills payable in the East Indies.

These *delais* shall be observed in the same proportions in proceeding against drawers and indorsers residing in the French possessions not situated in Europe.

The above *delais* of six months, one year, and two years, shall be doubled in times of a maritime war.

FRANCFORT.

Bills drawn on Francfort at one usance, (by which is understood 14 days after acceptance,) also bills drawn at 4 days or more after sight, or after date, have 4 days' grace allowed, besides Sundays and holidays. But when a bill has no acceptor, or when it is payable by the drawer himself, if not honored when due, and if the first indorser, or the person to whose order the bill is drawn, refuses to accept it, the bill must be protested on the very day it becomes due. There are no days of grace allowed on bills—*a vista,* (at sight,) or at less than 4 days' sight or date. All such bills must be paid within 24 hours of the specified time.

GENEVA.

The usance of bills drawn on this place from Holland, England and France, is one month of 30 days; from Germany and Italy, 15 days' sight. In default of payment on the maturity of a bill, it must be protested on the fifth day afterwards, exclusive of Sundays.

Geneva draws on Amsterdam, Paris, and London, at 3 months, and sometimes at 2 months' date; on Genoa, Leghorn, Milan and Turin, at 8 days' sight; on Lyons at sight and at the payments.

The holder of a protested bill, which had been accepted or indorsed by an inhabitant of Geneva, must prove his debt, and sue for payment within 8 days, if he (the holder) resides in Geneva; but if in any other part of Switzerland or Savoy, a month is allowed him; and the same if at Lyons; if in any other part of France, or in Italy, Germany, Flanders, or Holland, 2 months. The allowance for a person residing in England, Sweden, or Denmark, is 3 months; and 4 months for a person resident in Spain or Portugal. The same terms are granted when bills drawn from Geneva on the above places have been protested: but if the holder of such bills should neglect to make his demand within the proper time, as above stated, he forfeits all claim on his Genevese debtor.

GENOA.

The usance for bills drawn on Genoa from Amsterdam, Hamburgh, Spain, and Sicily, is 2 months, and from London and Lisbon, 3 months after date; from Naples, Ancona, and Trieste, 22 days' sight; Venice and Rome, 15 days; Augsburg and Vienna, 14 days; Leghorn, Milan, and Turin, 8 days' sight; Constantinople and Smyrna, 30 days' sight.

Thirty days are allowed to the holder of a bill to demand payment; but no days of grace are allowed to the acceptor. A bill may be protested on the next day after it becomes due, though it is usual to delay the protest until the first post day for the place from whence the bill came.

HAMBURGH.

The usance for bills drawn from all parts of Germany is 14 days' sight; when bills are drawn at usance, the day of acceptance is reckoned for the first; but when at any other number of days after sight, the day after acceptance is reckoned for the first.

The usance for bills drawn from England, France, and Holland, is 1 month after date; from Spain, Portugal, Trieste, and Italy, 2 months after date.

Twelve days of grace are allowed for payment or protest; the day on which the bill would become due, if no grace were allowed, is reckoned for the first day; and Sundays and holidays are also included in the 12 days. The days of grace are seldom now taken.

LEGHORN.

Foreign Bills of Exchange on Leghorn are by law payable in gold; and all quotations and calculations of such bills are made in gold money. This is a money of account differing from the silver by a fixed agio of 7 per cent. Thus, 100 Pezze gold money are equivalent to 107 Pezze silver money.

No days of grace are allowed; but bills are paid three times a week at the *Stanza*, a place where the cashiers meet on Mondays, Wednesdays, and Fridays: thus, bills which become due on Tuesdays, Thursdays, or Saturdays, are not payable till the following days of meeting and payment.

When a bill is negotiated in Leghorn on a Monday, the value of it is not paid till the Friday following; and when on the Wednesday or Friday, it is not paid until the following Monday. If, in the interval, the Leghorn merchant, who took the bill, should be declared a bankrupt, and if the bill had been negotiated to answer or effect some commercial transaction ordered from a foreign place, the loss must fall on the merchant at the said foreign place, and not on the merchant of Leghorn, who drew or negotiated the bill.

When the drawer of a bill accepted in Leghorn, becomes a bankrupt, and the date of his bankruptcy is anterior to that of the acceptance, the acceptance can be declared null and void, and the money may be deposited in the hands of magistrates till the date of the failure has been ascertained.

LONDON.

The usance for bills drawn from Holland, Germany, and France, is 1 month; from Spain and Portugal, 2 months; and from Italy, 3 months, all after date.

The usances with other places, will be found under their proper heads respectively.

Three days' grace are allowed on all bills payable at usance, or after date, or at so many days' sight; but if the third day should fall on a Sunday, payment must be made on the preceding Saturday. Bills at sight, or on demand, must be paid on the day they are presented. For the Laws and Customs relating to Bills of Exchange, see *Laws of Exchange.*

LISBON.

Payments in Portugal have been, of late years, made in what is called legal money, or currency, which consists of one half in effective money or specie, and one half in government paper. The latter is at a discount.

The usance for bills drawn from Spain is 15 days' sight; from London, 30 days' sight; from Germany and Holland, two months after date; from France, 60 days after date; from Italy, and from Ireland, 3 months after date. Six days' grace are allowed on foreign bills, when they have been accepted. But unaccepted bills must be either paid or protested on the day of expiration. Bills drawn from any part of the Portuguese dominions, both in Europe and other parts of the world, are allowed 15 days' grace.

LEIPSIC.

Bills are presented for acceptance in the four first days of the fair, and the acceptance can be delayed, at New-Year's fair, only till the day before the second proclamation. But at the other two fairs, till the Friday in the first week, ten o'clock in the forenoon at the latest; and if the acceptance should not then have taken place, the bills must be protested.

The time of payment of bills of exchange is during the five first days after the close of the fair is proclaimed; so that, at New-Year's fair, payment must be made on the 12th of January, at latest. And at the other two fairs, on the Thursday in the second week; in default of which, the bills must then be protested before 10 o'clock at night, or all recourse is lost against the drawer.

The usance in Leipsic is 14 days after acceptance. When bills are made payable any number of days after the fair, the time is reckoned from the Monday in the week of payment of the Easter and Michaelmas fair; but at New-Year's fair, from the 16th of January.

No days of grace are allowed here; but, on the day a bill becomes due, the holder must demand payment. Neither is he permitted, in case of non-payment, to connive at any delay, but must, on the very day, have it protested, with interest, expenses, &c., and return the bill the first opportunity. If he neglects any of these regulations, he loses all claim on the drawer and indorsers.

Bills payable *a vista*, or on demand, may be presented and accepted even on a Sunday or holiday, and must be paid within 24 hours after acceptance.

MILAN.

The usance for bills drawn from Genoa, Leghorn, Piedmont, and all Lombardy, is 8 days' sight. From Rome, Florence, Augsburg, Vienna, and all Germany, 15 days' sight; from Venice 20 days' date; from Naples and Sicily, 20 days' sight; from France and Savoy, 1 month after date; from Spain, Holland and Flanders, two months; from London, 3 months after date; the month to be always reckoned at 30 days. Bills at sight must be paid on being presented; bills payable at usance, or some days after date or sight, must be paid the day after their written term expires; and if this should fall on a Sunday, or holiday, payment is to be made on the next working day.

Thus, no days of grace can be claimed at Milan. Yet the holder of the bill may grant to the person who is to accept it, three days. In such a case, however, the bill must be carried to the notary of the chamber of commerce, who writes upon it *Seen on such a day;* and when the bill is afterwards accepted, the acceptance is to be dated from the day when it was first presented. But if refused, the protest is to take place on the day marked by the notary. The same grace may be allowed with regard to payment, when the bill becomes due; but any delay is always at the option of the holder.

NAPLES.

The usance for bills drawn from any part of the kingdom of Naples, is 15 days after acceptance; and from Sicily, Genoa, Venice, Leghorn, and Rome, 22 days. From Spain, 2 months after date; and from London, 3 months. The acceptance is to take place on the Saturday after the arrival of the post from the place where the bill was drawn. But bills payable at so many days' sight or date, must be accepted or protested on being presented, without any delay.

Three days' grace are allowed, except for bills at sight.

ROME.

Rome draws on most places at usance, which is 3 weeks after acceptance; but bills on Paris are drawn at from 30 to 90 days' date, and on London, at 3 months.

Bills drawn on Rome at usance, from any part of the ecclesiastical States, are accepted on the Wednesday, or the Saturday. Bills from foreign parts are generally accepted on the Saturday in the week in which they are received, except those from the kingdom of Naples, which are accepted on the Friday. Protests for non-acceptance, or non-payment, are to take place on those days. The usance is properly 2 weeks after acceptance; and it has been the constant practice of bankers to pay their bills at the expiration of the 14 days: a week of grace, however, is allowed; and merchants and all other traders, except bankers, avail themselves of it. This week is understood in the following manner: bills accepted on a Friday or Saturday, are paid 21 days after acceptance; but the period for bills accepted on a Wednesday, is only 18 days. Bills drawn at so many days' sight, must be paid on the day their written term expires.

SPAIN.

The usances, and days of grace vary in different parts of the kingdom. Thus, at Madrid and Seville, the usance for bills drawn from England, France, Genoa, and Leghorn, is 60 days after date; from Amsterdam, Hamburgh, and other places in the north of Europe, 2 calendar months.

At Cadiz and Bilboa, the usance from France is 1 month after date; and from the other parts of Europe, 2 months after date. At Barcelona, the usance for all foreign bills is 60 days after date.

In all parts of Spain, the usance for bills drawn from Rome, is 90 days after date, without any days of grace.

The days of grace for all other bills drawn on Madrid, Seville, Bilboa, and Barcelona, are 14 days, provided the bills be accepted before they become due; otherwise no days of grace are allowed. Such bills must be protested immediately.

At Cadiz, 6 days' grace are allowed in all cases.

In drawing bills of exchange on Spain, it is customary to write "Payable in effective," in order to distinguish cash from *Vales Reales*, which are of inferior value.

Vales Reales (or Royal Bonds) are a kind of paper currency, which was first issued by the Spanish government in 1800, in bonds of a certain number of Pesos, transferable by indorsement, and bearing an interest of 4 per cent. per annum. They are still in circulation, at a depreciated and fluctuating value.

Vales Reales are generally quoted at so many per cent. *loss;* thus, they are quoted at 80 per cent. when their real value is 20 per cent. At Cadiz, however, they are valued in hard Dollars: thus, a *Vale* of a certain number of Pesos, is quoted at a variable number of hard Dollars.

SICILY—(*For Monies of Exchange, see* PALERMO.)

Bills are drawn on Leghorn at Genoa at usance of one month after acceptance, or at 2 months' date, or at a few days' sight; on Rome, Venice, and Naples, at 8 or 15 days' sight; on London, at 3 months' date.

The usance for bills drawn from Naples, Ancona, Rome and Venice, is 21 days after sight; and from the rest of Italy, 15 days after sight. From France, 30 days after date; from Amsterdam, Antwerp, Hamburgh, Portugal, and Spain, 2 months, and from England, 3 months after date. No days of grace are allowed here in any case.

SWEDEN—(*For Monies of Exchange, see* STOCKHOLM.)

Bills of Exchange are seldom drawn from abroad on Sweden, as this country, like Russia, generally settles her commercial debts by drawing and remitting foreign bills.

The usance is reckoned at 1 month after sight. Six days of grace are allowed for the payment of bills; (Sundays and holidays included;) if the sixth day, however, should fall on a Sunday or holiday, the bill must be paid on the preceding day; but those six days are not understood to be granted, except in cases of necessity; and a person who wishes to preserve his credit, must not claim any days of grace, but pay his bills on the day they are made payable.

Bills payable on demand, or at 2 or 3 days' sight, are not allowed any days of grace; bills payable in the middle of a month, become due on the 14th, whatever may be the number of days in that month; and the six days of grace are allowed.

When a bill payable after date, is not presented till 2 or 3 days after its written term is expired, no more days of grace are allowed than may remain unelapsed at the time of presentation.

RUSSIA—(*For Monies of Exchange, see* PETERSBURGH.)

Bills drawn in Russia which are payable after date, are allowed 10 days grace, but if payable at sight, three days only; Sundays and holidays are included in both cases. Payment must be demanded in the morning of the day the bill becomes due; and in case of non-payment, the protest should take place at latest on the following day. The 10 days' grace are allowed, even though the written term of the bill should be elapsed before it is presented or accepted. But bills payable at so many days after sight, are not allowed any days of grace; and if the acceptance be delayed, the term is reckoned from the day on which the bill was presented.

Throughout all Russia, the Julian Calendar, or Old Style, is still retained, which (since the year 1800) is 12 days later than the New Style, and in Leap years, 13 days, after the month of February. Thus, a Russian bill dated the first day of any month, must be reckoned from the 13th day of the same month, in England, and in every other place where the Gregorian Calendar or New Style is used, and the 14th if it be a Leap year.

TURIN.

The usance for bills drawn from London, is 3 months after date; from Holland, the Netherlands, Hamburgh, Spain, and Portugal, 2 months; and from France, 1 month.

The period allowed for the payment of bills drawn from any other country besides the foregoing, begins on the day they are presented for acceptance, and ends on the day when an answer can be had by the regular post, from the place where the bill was drawn or negotiated. Hence the usance for bills drawn in Geneva, Genoa, and Milan, is commonly reckoned at 8 days after sight; for those drawn in Venice, Florence, Leghorn, or Rome, 10 days' sight; in Augsburg, Vienna, and other places in Germany, 15 days' sight; and for those drawn in Naples and Sicily, at 21 days' sight. The presentation for acceptance of a bill payable at a determined period, cannot be delayed beyond 2 months after the date of the bill: the same regulation is observed with regard to claiming the discharge of a bill payable at sight: if it is not claimed within hat period, it is supposed that the necessary steps have not been taken to obtain payment.

The day on which a bill is dated, is always reckoned in the term it has to run.

The holder of a bill payable after date, is at liberty either to demand payment when it becomes due, or to wait till the fifth day; and if this should fall on a Sunday or holiday, payment is to take place on the next following day of business; but bills at sight must be paid when presented.

UNITED STATES OF AMERICA.

The money of account is the dollar of 100 cents.

The standard quality of silver, on which the currency is based, is 10 oz. 14 dwts. $4\frac{5}{13}$ grs. fine, in 12 ounces; an ounce of which is worth $115\frac{5}{13}$ cents. The weight of the dollar is 17 dwts. 8 grs. equal to 416 grains.

An ounce of Standard gold is worth $17,71 cts. or 27 grains for a dollar.

"In regulating the value of our own and foreign coins, our laws have fixed the value of one ounce of gold at fifteen of silver. But throughout commercial Europe, gold is valued, both in commerce and by law, at a higher comparative value. In this country it is worth more than the legal rate, or, in other words, it is sold at a premium. Thence it appears, that while the gold in which a bill of £100 sterling is payable in London at $4,44\frac{4}{9}$ the commercial par, it is intrinsically worth much more; and, therefore, while a bill, bought here in dollars, might bring exactly the same amount in London, a bill, payable in the gold coin of England, or in paper at par with gold, might be from five to ten per cent. above par."

Bills of Exchange.—Foreign bills are generally drawn at a certain number of days after sight; and the rate of exchange is sometimes specified.

Bills payable in the United States are mostly deposited in banks; and when the term of a bill is expired, notice is sent from the bank to the acceptor, who must in three days (the days of grace) take up his bill, or it will be protested.

When bills of exchange are returned to the United States, and protested for non-payment, there are certain damages and interests charged on the original amount of each, besides notarial expenses; and if the holder declines accepting payment in new bills, he is entitled to an equivalent in currency at the actual rate of exchange on the day of settlement.

The following are the damages and interest charged in the different States, on Foreign Bills of Exchange, which are returned and protested for non-payment.

	Damages.	*Interest.*	*Time charged.*
New England,	10 per cent.	6 per cent.	From the date of the protest.
New Jersey,	20 per cent.	6 per cent.	From presenting the protest.
Pennsylvania,	20 per cent.	6 per cent.	From ditto.
Delaware,	20 per cent.	6 per cent.	From ditto.
Maryland,	15 per cent.	6 per cent.	From the date of protest.
Virginia,	15 per cent.	6 per cent.	From ditto.
North Carolina,	15 per cent.	6 per cent.	From ditto.
South Carolina,	15 per cent.	6 per cent.	From ditto.
Louisiana,	10 per cent.	6 per cent.	From ditto.

Extract from the Laws of New York, which went into operation Jan. 1st, 1828.

Sect. 18.—The rate of damages to be allowed and paid upon the usual protest for non-payment of Bills of Exchange, drawn or negotiated within this State, shall, in the following cases, be as follows :—

1. If such bill shall have been drawn upon any person or persons, at any place in either of the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Pennsylvania, Ohio, Delaware, Maryland, or Virginia, or in the District of Columbia, three dollars upon the hundred upon the principal sum specified in such bills.

2. If such bill shall have been drawn upon any person or persons, at any place of North Carolina, South Carolina, Georgia, Kentucky, or Tennessee, five dollars upon the hundred, upon the principal sum specified in such bill.

3. If such bill be drawn upon any person or persons, at any place in any other State or Territory of the United States, or at any other place on or adjacent to this continent, and north of the equator, or in any British or other foreign possessions in the West Indies, or elsewhere in the Western Atlantic Ocean, ten dollars upon the hundred upon the principal sum specified in such bill.

4. If such bill shall have been drawn upon any person or persons, at any port or place in Europe, ten dollars upon the hundred upon the principal sum specified in such bill.

Sec. 19. Such damages shall be in lieu of interest, charges of protest, and all other charges incurred previous to and at the time of giving notice of non-payment; but the holder of such bill shall be entitled to demand and recover lawful interest upon the aggregate amount of the principal sum specified in such bill, and of the damages thereon, from the time at which notice of protest for non-payment shall have been given, and payment of such principal sum shall have been demanded.

Sec. 20. If the contents of such bill be expressed in the money of account of the United States, the amount due thereon and of the damages herein allowed for the non-payment thereof, shall be ascertained and determined without reference to the rate of exchange existing between this State and the place on which such bill shall have been drawn, at the time of the demand of payment or of notice of non-payment.

Sec. 21. If the contents of such bill be expressed in the money of account or currency of any foreign country, then the amount due, exclusive of the damages payable thereon, shall be ascertained and determined by the rate of exchange or the value of such foreign currency at the time of the demand of payment.

DAMAGES ON BILLS OF EXCHANGE IN GEORGIA.

An act to reduce the damages upon Bills of Exchange, drawn on any place beyond the limits of the United States, returned protested for non-payment, and to define more precisely the mode of settling the same, on the principle of re-exchange.

Whereas the damages at present established by commercial custom and judicial decision in this State upon foreign Bills of Exchange, returned under protest, are much too high; and whereas a doubt exists what is the legal mode of settlement,—for remedy, wherefore,

Be it enacted by the Senate and House of Representatives of the State of Georgia, in General Assembly met, and it is hereby enacted by the authority of the same, That on all Bills of Exchange drawn in this State after the 31st day of January next, upon any place beyond the limits of the United States, which shall be returned protested for non-payment, it shall be lawful for the holder or holders thereof to recover from those liable for the payment thereof, the amount of the said Bill of Exchange, with postage, protest, other necessary expenses, and interest upon the amount of these sums, from the date of protest until the time of presenting the same for payment in this State, at the rate established at the place at which the bill was payable, and also such premium upon the face of the bill and the foreign postage, protest, and necessary expenses, as good Bills of Exchange upon the same place where such bill was made payable, are worth at the time and place of its demand in this State; but if such bills are then and there at a discount, the holder shall deduct such discount upon and from the items of principal, foreign postage, protest, and necessary expenses.

Sec. 2. And be it further enacted, That it shall be lawful for the holder of such Bill of Exchange, so returned protested as aforesaid, also to claim and receive, from the person or persons liable therefor, damages at the rate of ten per cent. upon the amount for which the said bill was drawn.

Sec. 4. And be it further enacted, That it shall be lawful for the holder or holders of such bill or bills returned protested as aforesaid, to recover the legal interest established in this State, from the time of presentment for settlement until paid, upon the sum or sums to which he would be entitled by the before mentioned mode of settlement.

IRBY HUDSON, *Speaker of the House of Representatives.*
THOMAS STOCKS, *President of the Senate.*
Assented to, Dec. 21, 1827.
JOHN FORSYTH, *Governor.*

VENICE.

The usance for bills on this place, drawn from Hamburgh, Holland, France, and Spain, is 2 months' date; from Lisbon and London, 3 months' date; from Ancona and Rome, 10 days after acceptance; from Bergamo, Mantua, Milan, and Modena, 20 days' date; from Augsburg, Bolsano, Francfort, Genoa, Naples, Nuremburgh, Sicily, St. Gall, and Vienna, 15 days after acceptance; and from Bologna, Ferrara, Florence, Leghorn, and Lucca, 5 days after acceptance.

VIENNA.

Usance is 14 days after acceptance; half usance, 7 days; 1½ usance, 21 days; double usance, 28 days, including Sundays and holidays; but the day of acceptance is not included.

Bills payable *medio mense*, (in the middle of the month,) are reckoned due on the 15th ; and are allowed, like other bills, 3 days' grace, if necessary.

When the written term of a bill is expired, 3 days of grace are allowed ; and if the bill should not be paid by five o'clock on the third day, it must be immediately protested and returned. In these days of grace, Sundays and holydays are included ; but if the day of payment should fall on a Sunday or holyday, the bill must be paid on the next following day of business. This allowance of three days, however, is only made in order that the holder of a bill, if he should not be able to demand payment sooner, may have the advantage of that delay ; but a good payee will not avail himself of the days of grace in order to delay the payment of a bill beyond the written term.

If a bill which is not duly paid is not protested immediately, as above, the holder has no recourse except against the acceptor.

Bills drawn at sight, or on demand, or at less than 7 days' sight or date, are not allowed any days of grace, but must be paid within 24 hours, unless they fall due on a Sunday or holyday.

Fairs are days set apart in many parts of Europe, during which time all great commercial transactions take place.

Proportion : : : : as 3 : 6 : : 9 : 18 ; that is, as the first term is to the second, so is the third to the sum sought.

This mark = means equal to.

EXCHANGE CALCULATIONS.

CHAIN RULE, OR RULE OF REDUCTION.

This Rule is chiefly used in exchanges, and is generally illustrated by examples in foreign monies; but, as this sort of illustration rather tends to obscure than to elucidate the subject, I have chosen the following simple articles for this purpose.

EXAMPLE.

If 3 lbs. of coffee is worth 4 lbs. of sugar, and 32 lbs. of sugar is worth 8 lbs. of tea, how many pounds of sugar may be had for 60 lbs. of coffee ?

First, by the Double Rule of Three.

	lbs. cof.		lbs. sug.		lbs. cof.		lbs. sug.
As	3	:	4	: :	60	:	80.

AND

lbs. sug.		lbs. tea.		lbs. sug.		lbs. tea.
32	:	8	: :	80	:	20

By the Chain Rule.

60 lbs. coffee.
3 lbs. coffee = 4 lbs. sugar.
32 lbs. sugar = 8 lbs tea.

$$\frac{60 \times 4 \times 8}{32 \times 3} = \frac{1920}{96} = 20 \text{ lbs. of tea.}$$

From the above solution, it will be perceived, that the Chain Rule consists of a series of terms which bear a certain proportion to each other, and which are, accordingly, arranged in two columns, with the sign of equality between them.

The first, or left hand column, are called the antecedents; the second, or right hand column, are called the consequents; and however numerous these terms may be, the same result is obtained by one operation as by several statings in the Rule of Three.

Rule.—Distinguish the several terms into *antecedents* and *consequents*, as follows :

1. Enter on the right the given sum or term on which the operation is to be performed, and call this the *Term of Demand.*

2. On the left of this term, and a step lower, enter the first antecedent, which must be of the same kind or name as the Term of Demand, and of the same value as the annexed consequent.

3. In the same manner let the second antecedent be of the same name as the second consequent, and so on for any given number of terms.

Having thus arranged the terms, divide the product of the consequents by the product of the antecedents, and the quotient will be the answer, which is of the same name as the last consequent.

ILLUSTRATION.

If 4 lbs. of nutmegs be worth 20 lbs. of cloves, and 80 lbs. of cloves be worth 16 lbs. of indigo, how many pounds of indigo may be had for 100 lbs. of nutmegs?

Antecedents.		*Consequents.*
		100 lbs. of nutmegs term of demand.
4 lbs. of nutmegs	=	20 lbs. of cloves.
80 lbs. of cloves	=	16 lbs. of indigo.

$$\frac{100 \times 20 \times 16}{80 \times 4} = 100 \text{ lbs. of indigo.}$$

This operation may be abridged by striking out the same number when they occur in both columns, or by reducing them to lower denominations, thus: In the preceding example, if each term be divided by 4, and this quotient again by 4, we shall have the same result.

$$\begin{array}{c}100\\ \left.\begin{array}{r}4 = 20\\ 80 = 16\end{array}\right\}\end{array} \div 4 = \begin{array}{c}100\\ \left.\begin{array}{r}1 = 5\\ 20 = 4\end{array}\right\}\end{array} \div 4 = \begin{array}{c}100\\ \begin{array}{r}1 = 5\\ 5 = 1\end{array}\end{array} \text{ Now, } \frac{100 \times 5}{5} = 100$$

As the quotients arising from the second division contains 5, both in the antecedent and consequent, we may, therefore, divide both by 5, and the whole operation will be performed simply by division, thus:

100 Term of Demand.

$$\left.\begin{array}{r}1 =\\ 5 =\end{array}\right\} \div 5 = \left.\begin{array}{r}1 =\\ 1 =\end{array}\right\} \text{ Hence, } \frac{100 \times 1 \times 1}{1 \times 1} = 100$$

Observe that the term of demand must not be divided. Now, it is manifest, that the whole operation has been performed by division.

The above Rule exemplified by Foreign Monies.

Suppose that £200 sterling is to be remitted from London to Cadiz, and the direct exchange is 40*d.* sterling per piaster or dollar of exchange, but the remitter wishes to send it through Holland and France. It is required to ascertain which is the most advantageous, the direct or indirect remittance.

RATES.—London on Amsterdam, 10 florins, 10 stivers per pound sterling; Amsterdam on Paris, 60 pence Flemish for the Ecu of 3 francs; Paris on Cadiz, 15 francs for 1 doubloon of 4 dollars of exchange.—1 florin = 40 pence Flemish.

By the Rule of Three.

£		*fl.*		£		*fl.*
1	:	10½	: :	200	:	2100

AND

fl.		*penc. Fl.*		*fl.*		*penc. Fl.*
1	:	40	: :	2100	:	8400

AND

penc. Fl.		*fr.*		*penc. Fl.*		*fr.*
60	:	3	: :	84000	:	4200

AND

fr.		*doubl.*		*fr.*		*doubl.*
15	:	1	: :	4200	:	280

AND

doubl.		$		*doubl.*		$
1	:	4	: :	280	:	1120

By the Chain Rule.

£200 Term of Demand.
1 pound st. = $10\frac{1}{2}$ or 10.5 florins.
1 florin = 40 pence Flemish.
60 pence = 3 francs.
15 francs = 1 doubloon.
1 doubloon = 4 dollars.

Hence, $\frac{200 \times 10.5 \times 40 \times 3 \times 4}{60 \times 15} = \frac{100800}{900} = 1120$ dollars.

If the process, by which we have obtained the result in both cases, be compared with each other, it will be found that they are precisely the same; for, it is manifest, that we have employed in each case, four multipliers and two divisors. Now, it can make no possible difference, whether the Term of Demand be multiplied by the product of these four multipliers, and this product divided by the product of the two divisors, or whether we multiply and divide, step by step, as in the Rule of Three. The only difference is the value of the sum to be exchanged in each country is known in the first case, whereas this value is not ascertained except in the country where the remittance is finally to be made.

Let us now determine which is the most advantageous, the direct or indirect remittance, thus:

$$
\begin{array}{rrcr}
\$ & £ & & \$ \\
1120 : & 200 & :: & 1 \\
 & 20 & & \\
\hline
 & 4000 & & \\
 & 12 & & \\
\hline
1120) & 48000(42\frac{6}{7} \text{ pence.} & & \\
 & 4480 & & \\
\hline
 & 3200 & & \\
 & 2240 & & \\
\hline
 & 960 & & \\
16) & \overline{1120} = \frac{6}{7} & &
\end{array}
$$

Hence, the direct exchange is more profitable to the remitter, because he would obtain \$1200 at 40*d.* each; whereas, by the circular remittance, he would receive only \$1120; while, on the contrary, the indirect exchange would be most advantageous to the drawer, in the same proportion.

LONDON.

MONIES OF EXCHANGE.

Exchanges are computed in Pounds, Shillings, and Pence sterling; and Farthings are also sometimes reckoned.

---

4 Farthings = 1 Penny. 12 Pence = 1 Shilling. 20 Shillings = 1 Pound sterling.

Course of Exchange arranged from Lloyd's List.		EXPLANATION.
Amsterdam,	11 16,	London receives 11 florins, 16 stivers for 1 pound stg.
Do.	38 6	“ “ 38s. 6d. Flem. banco for 1 “ “
France,	25 15	“ “ 25 francs, 15 centimes for 1 “ “
Francfort,	149	“ “ 149 batzen for 1 “ “
Genoa,	44	“ gives 44 pence stg. for 1 Pezza Fuori banco.
Gibraltar,	30	“ “ 30 pence sterling for 1 current dollar.
Hamburgh,	36 2	“ receives 36s. 2d. Flemish for 1 pound sterling.
Leghorn,	51½	“ gives 51½ pence stg. for 1 Pezza of 8 reals.
Lisbon,	52	“ “ 52 pen. stg. for 1 millree, legal money.
Malta,	46	“ “ 46 pence stg. for 1 dollar of exchange.
Naples,	39	“ “ 39 pence stg. for 1 ducato di regno.
Palermo,	116	“ “ 116 pence sterling for 1 ounce.
Rio Janeiro,	56	“ “ 56 pence stg. for 1 millree, effective.
Spain,	35	“ “ 35 pence stg. for 1 dollar of exchange.
Venice,	27	“ receives 27 Italian livres for 1 pound stg.
Vienna & Trieste,	10 15	“ “ 10 florins, 15 creutzers for 1 pound stg.
Dublin,	10½	“ “ 110½ pounds Irish for 100 p'ds. British.

[*For the usances, days of grace, &c. see London, page* 142.]

LONDON ON AMSTERDAM.

Reduce 2401 florins, 17 stivers, 8 pennings, into English money; exchange at 12 florins, 4 stivers per £ sterling.

AMSTERDAM ON LONDON.

Reduce £196 17s. 6d. stg. into Dutch money; exchange at 12 florins, 4 stivers, current per £ sterling.

[16 Pennings = 1 Stiver, and 20 Stivers = 1 Florin.]

```
   fl. st.  £     fl.   st. pen.  £    s. d.
As 12 4  :  1 : : 2401  17  8  : 196  17 6
   20             20
   ---            -----
   244            48037
    16               16
   ---            -----  £   s.  d.
  3904     3904)768600(196  17  6 Ans.
                3904
                -----
                37820 &c.
```

```
    £    fl. st.     £   s. d.   fl.   st. pn.
As  1 :  12  4 : : 196  17 6 : 2401   17  8
         20         20
         ---       ----
         244       3937
                     12
                   -----
                   47250
                     244
              ----------(2,0
£1 = 24,0)1152900,0(4803,7½
                    ------------------
                    2401 fl. 17st. 8 pe.
```

LONDON ON FRANCE.

Reduce 4305 francs, 95 centimes, into sterling; exchange at 24 francs, 25 centimes per £ sterling.

FRANCE ON LONDON.

Reduce £177 11s. 3½d. into francs and centimes; exchange at 24 francs, 25 centimes per £ sterling.

[100 Centimes = 1 Franc.]

```
   francs.  £      francs.      £
As 24 25 :  1 : : 4305 95 : 177.565
                                 20
                             ------
                             11.300
                                 12
                             ------
Ans. £177 11s. 3½d.             3.6
```

```
        11s. 3½d. = .565

    £   fr. cent.     £         fr.
As  1 :  24 25  : : 177.565 : 4305.95

Ans. 4305 francs, 95 centimes.
```

Livres reduced into Francs.

Exchanges between France and England were formerly transacted by giving about 30 pence for 1 Ecu of 3 livres; and, of late, bills have been sometimes drawn in livres, sous, and deniers; in such case, livres must be reduced to francs by multiplying by 80 and dividing by 81.

Reduce 16914 francs, 19 centimes, into English money; exchange at 23 livres, 10 sous per £ sterling.

fr. *liv.*
As 80 : 81 : : 16914 19 : 17125.625

liv. *sou.* £ *liv.* *sou.* *den.* £ *s.*
As 23 10 : 1 : : 17125 12 6 : 728 15
20 20
470 342512
12 12
£ *s.*
5640 564,0)411015,0(728 15 Ans.
3948
1621 &c.

Francs reduced into Livres.

Reduce £728 15s. into francs and centimes; exchange at 23 livres, 10 sous per £ sterling.

£ *liv.* *sou.* £ *s.* *liv.* *sou.* *den.*
As 1 : 23 10 : : 728 15 : 17125 12 6
20 20 20
20 470 14575
470
2,0)685025,0
2,0)342512,5
17125 livres, 12.5 sous
12
6.0 deniers

17125,625 livres.
80
81)1370050.000(16914 fr. 19 cen.
Ans.

LONDON ON FRANCFORT.

Reduce 8036 florins, 22 creutzers, Francfort currency, into sterling; exchange at 142½ batzen per £ sterling.

FRANCFORT ON LONDON.

Reduce £845 18s. 8d. into money of Francfort; exchange at 142½ batzen per £ sterling.

[4 Creutzers = 1 Batze. 60 Creutzers or 15 Batzen = 1 Florin.]

STATEMENT.

batzen. £ *flor.* *cr.*
As 142½ : 1 : 8036 22
4 60
£ *s.* *d.*
570 570)482182(845 18 8

£ *batz.* £ *s.* *d.* *flo.* *cr.*
As 1 : 142½ : : 845 18 8 : 8036 22
4 20
570 16918
12
203024
570
6,0)
£1=24,0)11572368,0(48218,2
8036fl. 22 cr.

LONDON ON GENOA.

Reduce 7346 lire, 11 soldi, 8 denari, into sterling; exchange at 45d. sterling per pezza of 5¾ lire fuori banco.

[To turn Lire into Pezza, multiply by 4, and divide by 23.]

lire. sol. den. di lira.
7346 11 8
4
pez. sol. den. de p.
23)29386 6 8(1277 13 4
23
63 &c.

Then—

pez. d. pez. sol. den. £ s. d.
As 1 : 45 : : 1277 13 4 : 239 11 3
20 20
20 25553
12 12
240 306640
45
(12
24,0)1379880,0(57495
120
2,0)479,1 3
179 &c.
£239 11s. 3d.

GENOA ON LONDON.

Reduce £239 11s. 3d. into money of Genoa; exchange at 45d. sterling per pezza of 5¾ lire fuori banco.

d. pez. £ s. d. pez sol. den. de p.
As 45 : 1 : : 239 11 3 : 1277 13 4
20
4791
12
pez. sol. den.
45)57495(1277 13 4

If lire are required instead of pezza, say,—

d. liv. sol. £ s. d. lire. sol. den.
As 45 : 5 15 : : 239 11 3 : 7346 11 8

LONDON ON HAMBURGH.

Reduce 1416 marks, 1 schilling, 6 pfenings banco, into English money; exchange at 35 shillings, 4 grotes or pence, Flemish banco, per £ sterling.

[12 Pfenings = 1 Shilling. 16 Shillings = 1 Mark.]

STATEMENT.

Flem. £ mrks. sch. pfn £ s. d.
As 35s. 4d. : 1 : : 1416 1 6 : 106 17 6

£106 17s. 6d. Answer.

HAMBURGH ON LONDON.

Reduce £106 17s. 6d. sterling, into Hamburgh money; exchange at 35 shillings, 4 grotes or pence, Flemish banco per £ sterling.

STATEMENT.

sterl Flem. £ s. d. marks. sch. pfen.
As £1 : 35s. 4d. : : 106 17 6 : 1416 1 6

1416 marks, 1 schil. 6 pfen. Ans.

LONDON ON LEGHORN.

Reduce 1876 pezza, 12 soldi, 5 denari, into English money; exchange at 50¼d. sterling, per pezza of 8 reals.

LEGHORN ON LONDON.

Reduce £392 18s. 4¼d. sterling, into money of Leghorn; exchange at 50¼d. sterling per pezza of 8 reals.

[12 Denari = 1 Soldo, 20 Soldi = 1 Pezza.]

STATEMENT.

pezza. d. pez. sol. den.
As 1 : 50¼ : : 1876 12 5 to the sum sought.

£392 18s. 4¼d. Ans.

STATEMENT.

d. pez. £ s. d.
As 50¼ : 1 : : 392 18 4¼ to the sum sought.

1876 pez. 12 sol. 5 den. Ans.

LONDON ON LISBON.

Reduce 827 millrees 160 rees into English money; exchange at 63⅜*d.* sterling per millree.

LISBON ON LONDON.

Reducee £218 8s. 5¼d. into Portugal money; exchange at 63⅜d. sterling per millree.

[1000 Rees = 1 Millree, and 400 Rees = 1 Crusado.]

STATEMENT.

mil. d. millrees.
As 1 : : 63⅜ : : 827.160 to the sum sought. Ans. £218 8*s.* 5¼*d.*

But if the sum be given in crusados, they are reduced to rees by multiplying them by 400, thus:

Reduce 7650 crusados into sterling; exchange at 61½d. sterling per millree.

7650 mult. by 400 = 30600. Then,

mill. d. milrees.
As 1 : 61½ : : 30600 to the sum sought.

Ans. £784 2s. 6d.

STATEMENT.

mill. £ s. d.
As 63⅜ or 63375 : 1 : : 218 8 5¼ to the sum sought.

mill rees.
Ans. 827 160

But if the answer be required in crusados, two decimals only should be cut off, and the four first figures should be divided by 4, thus:

4)8271,60 rees, (2067 crusados, 360 rees.

LONDON ON MALTA.

Reduce £728 13s. 6d. into tari and grani of malta; exchange at 49d. per dollar of 2½ scudi, or 30 tari.

MALTA ON LONDON.

Reduce 8922 scudi, 6 tari, 12 grani, into sterling; exchange at 49d. per dollar.

[20 grani = 1 Tari, and 12 Tari = 1 Scudo.]

STATEMENT.

d. doll. £ s. d.
As 49 : 1 : : 728 13 6 to the sum sought.

Ans. 8922 scudi, 6 tari, 12 grani.

STATEMENT.

dol. d. scudi. tar. gr.
As 1 : 49 : : 8922 6 12 to the sum sought.

Ans. £728 13s. 6d.

LONDON ON NAPLES.

Reduce 1014 ducati, 16 grani de regno, into English money; exchange at 37½d. sterling per ducato.

NAPLES ON LONDON.

Reduce £158 9s. 3d. into money of Naples; exchange at 640 grani per £ sterling.

[100 Grani = Ducati de Regno.]

STATEMENT.

duc. *d.* *ducati.*
As 1 : 37½ : : 1014 16 to the sum sought.

Ans. £158 9s. 3d.

STATEMENT.

£ *grani.* *£ s. d.*
As 1 : 640 : : 158 9 3 to the sum sought.

Answer, 1014 ducati, 16 grani.

LONDON ON PALERMO.

Reduce 1377 oncie, 14 grani, into English money; exchange at 127d. sterling per oncia.

PALERMO ON LONDON.

Reduce £728 13s. 6d. into Sicilian money; exchange at 127d. sterling per oncia.

[20 Grani = 1 Tari, 30 Tari = 1 Oncia.]

STATEMENT.

on. *d.* *on.* *tari.* *gr.*
As 1 : 127 : : 1377 0 14 to the sum sought.

Ans. $728 13s. 6d.

STATEMENT.

d. *on.* *£* *s.* *d.*
As 127 : 1 : : 728 13 6 to the sum sought.

Ans. 1377 oncie, 0 tari, 14 grani.

LONDON ON SPAIN.

Reduce 2375 dollars, 6 reals, 16 marav. into English money; exchange at 34d. sterling per dollar or piastre.

SPAIN ON LONDON.

Reduce £336 11s. 5½d. sterling into Spanish money; exchange at 34d. sterling per dollar of plate, or piastre.

[34 Mar. = 1 Real. 8 Reals = 1 Dollar of Ex.]

STATEMENT.

doll. *d.* *dolls.* *reals.* *mar.*
As 1 : 34 : : 2375 6 16 to the sum sought.

Ans. £336 11s. 5½d.

STATEMENT.

d. *doll.* *£* *s.* *d.*
As 34 : 1 : : 336 11 5½ to the sum sought.

Ans. 2375 dolls. 6 reals, 16 mar.

LONDON ON VENICE.

Reduce 14783 lire, 3 soldi, 9 denari piccoli, into sterling; exchange at 59 lire piccole per £ sterling.

[12 Denari = 1 Soldo. 20 Soldi = 1 Lira.]

STATEMENT.

lire. £ *lire. sol. den.*
As 59 : 1 : : 14783 3 9 to the sum sought.

Ans. £250 11s. 3d.

The above mode of exchange, as formerly used at Venice, has been of late years discontinued, and French francs, called *Lire Italiane*, or *Italian Livres*, substituted in their place. The proportion is, that 40$\frac{5}{10}$ lire piccole of Venice, equal 20$\frac{723}{1000}$ lire Italiane. In business, the proportion is mostly taken at 23 lire, 9 soldi, for 12 Italian livres.—*See the annexed Example.*

VENICE ON LONDON.

Reduce £728 13s. 6d. sterling, into lire Italiane of Venice; exchange at 24 lire, 80 centimes per £ sterling.

[Italian livres and centimes are reduced to sterling, and the contrary, in the same manner as francs and centimes of France, according to the given course of exchange.]

EXAMPLE.

£ *lire. cen.* £ *s. d.*
As 1 : 24 80 : : 728 13 6 to the sum sought.

Answer, 18071 lire, 14 cen.

To reduce the above lire Italiane into lire piccole, say,—

lire It. lire sol. (piccoli) lire It. cen.
As 12 : 23 9 : : 18071 14 to the sum sought.

LONDON ON VIENNA.

Reduce 6451 florins, 50 creutzers, into English money; exchange at 9 florins, 40 creutzers per £ sterling.

[4 Pfenings = 1 Creutzer, and 60 Creutzers = 1 Florin.]

STATEMENT.

fl. cr. £ *fl. cr.*
As 9 40 : 1 : : 6451 50 to the sum sought.

Ans. £667 8s. 7½d.

VIENNA ON LONDON.

Reduce £667 8s. 7½d. into money of Vienna; exchange at 9 florins, 40 creutzers per £ sterling.

STATEMENT.

£ *fl. cr.* £ *s. d.*
As 1 : 9 40 : : 667 8 7½ to the sum sought.

Ans. 6451fl. 50cr.

[*The Exchange with Trieste is similar to that of Vienna.*]

LONDON ON DUBLIN.

Reduce £879 6s. 6d. Irish, into English money; exchange at 11⅝d; that is, £100 British for £111⅝ Irish.

STATEMENT.

£ Ir. *£ Br.* *£ s. d. Irish.*
As 111⅝ : 100 : : 879 6 6 to the sum sought.

Ans. £787 15s. Brit.

DUBLIN ON LONDON.

Reduce £787 15s. English, to Irish money; exchange at 11⅝d.

STATEMENT.

£ Br. *£ Ir.* *£ s. Brit.*
As 100 : 111⅝ : : 787 15 to the sum sought.

Ans. £879 6s. 6d. Irish.

UNITED STATES OF AMERICA.

MONIES OF EXCHANGE.

Exchanges are computed in Dollars, Dimes, and Cents; and, in some places, in Pounds, Shillings, and Pence currency.

---

10 cents = 1 dime. 10 dimes, or 100 cents = 1 dollar. The dollar is also divided into 1000 parts, called mills. The par of the dollar is reckoned at 4s. 6d. sterling. 12 pence currency = 1 shilling. 20 shillings = 1 pound.

Courses of Exchange from Different Quotations.

NEW YORK.

Amsterdam,	42 Cents per Florin or Gilder.
Bremen,	78 Cents per Rixdollar.
Hamburgh,	35 Cents per Mark banco.
London, direct,	£177½ currency for £100 sterling.
Paris,	5 Francs, 40 Centimes per Dollar.

PHILADELPHIA.

Amsterdam,	40 Cents per Florin or Gilder.
Hamburgh,	35 Cents per Mark banco.
London, 2 per cent. premium,	4s. 6d. sterling per Dollar.

BALTIMORE.

Amsterdam,	40 Cents per Florin or Gilder.
Hamburgh,	33½ Cents per Mark banco.

London, at 60 days' sight, 101—that is, 100 cents for 4s. 6d. sterling, with 1 per cent. premium.

LONDON ON AMERICA.

American money is reduced to sterling *at par*, by saying, As 1 dollar is to 4s. 6d. sterling, so is the given sum to the sum sought.

Reduce 1783 dollars, 80 cents, to sterling, at par.

$ s. d. $ cts. £ s. d.
As 1 : 4 6 : : 1783 80 : 401 7 1
12 54
54 7132
8915
80 cents = $\frac{4}{5}$ 43
12)96325
2,0)802,7 1
£401 7s. 1d.

If the exchange be not at par, the difference is to be computed before the dollars are reduced to sterling.

Reduce 4282 dollars, 50 cents, to sterling; exchange at 2 per cent. above par.

$ cts. $ cts.
As 100 : 102 : : 4282 50 : 4368 15

$ s. d. $ cts. £ s. d.
And as 1 : 4 6 : : 4368 15 : 982 16 8

Reduce 3646 dollars, 50 cents, to sterling; exchange at 2 per cent. under par.

$ cts. $
As 102 : 100 : : 3646 50 : 3575

$ s. d. $ £ s. d.
And as 1 : 4 6 : : 3575 : 804 7 6

AMERICA ON LONDON.

Sterling is reduced to American money, *at par*, by reversing the annexed operation; that is, as 4s. 6d. is to 1 dollar, so is the given sum to the sum sought.

Reduce £401 7s. 1d. sterling, to American money, at par.

s. d. $ £ s. d. $ cts.
As 4 6 : 1 : : 401 7 1 : 1783 80
12 20
54 8027
12
54)96325(1783.79.6
54
423 &c. &c.

If the exchange be not at par, the difference is to be computed after the sterling has been reduced to dollars.

Reduce £982 16s. 8d. to American money; exchanged at 2 per cent. above par.

s. d. $ £ s. d. $ cts.
As 4 6 : 1 : : 982 16 8 : 4368 15

$ cts. $ cts.
And as 102 : 100 : : 4368 15 : 4282 50

Reduce £804 7s. 6d. to American money; exchange at 2 per cent. under par.

s. d. $ £ s. d. $
As 4 6 : 1 : : 804 7 6 : 3575

$ $ cts.
And as 100 : 102 : : 3575 : 3646 50

When the discount or premium is at any of the following rates, the operation may be thus performed:

At 1¼ per ct. discount, i. e. under par, multiply the Dolls. by	80, and divide by	81
2	50	51
2½	40	41
3¾	80	83
4	25	26
5	20	21
6	50	53
6¼	16	17
7½	40	43
8	25	27
8¾	80	87
10	10	11

If the exchange be at a premium, i. e. above par, the rule should be reversed. The Dollars are afterwards reduced to sterling as above.

AMSTERDAM ON AMERICA.

American money is reduced to Dutch by saying,—As the rate of exchange is to 1 florin, so is the given sum to the sum sought.

Reduce 4964 Dollars, 67 Cents, to Dutch money; exchange at 36 Cents per Florin.

```
    cts.  fl.     dols. cts.     fl.   stiv.
As  36  :  1  : : 4964  67  :  13790  15
                          1
                ----------
            36)4964 67(13790 15
               36
               --
               136 &c.
```

AMERICA ON AMSTERDAM.

Dutch money is reduced to American by reversing the annexed opperation; that is, as 1 Florin is to the rate of exchange, so is the given sum to the sum sought.

Reduce 13790 Florins, 15 Stivers to American money; exchange at 36 cts. per Florin.

```
     fl.  cts.       fl.   sti.   dols. cts.
As   1  :  36  : :  13790   15  :  4964  67
    20              20
    --           -------
    20           275815
                     36
                 -------
                 1654890
                 827445
                 -------
             2,0)992934,0
                 -------
      Ans.       496467 cents.
```

HAMBURGH ON AMERICA.

American money is reduced to that of Hamburgh by saying—As the rate of exchange is to 1 mark, so is the given sum to the sum sought.

Reduce 378 dollars 95 cents to Hamburgh money; exchange at 33 cents per mark banco.

	cts.		*mk.*		*dol.*	*cts.*		*mks.*	*sch.*	*pf.*
As	33	:	1	: :	378	95	:	1148	5	4
						1				

33)378 95(1148 5 4
33
—
48 &c.

AMERICA ON HAMBURGH.

Hamburgh money is reduced to American by reversing the annexed operation; that is, as 1 mark is to the rate of exchange, so is the given sum to the sum sought.

Reduce 1148 marks 5 schillings 4 pfennings banco to American money; exchange at 33 cents per mark banco.

	mk.		*cts.*		*mks.*	*sch.*	*phf.*		*dols.*	*cts.*
As	1	:	33	: :	1148	5	4	:	378	95
	16				16					
	16				18373					
	12				12					
	192				220480					
					33					

192) (=378 95.

FRANCE ON AMERICA.

American money is reduced to French by saying,—As 1 dollar is to the rate of exchange, so is the given sum to the sum sought.

Reduce 1364 dollars, 60 cents, to French money; exchange at 5 francs, 30 centimes per dollar.

	doll.		*fr.*	*cent.*		*dolls.*		*cts.*	*francs.*	*cent.*
As	1	:	5	30	: :	1364	:	60	7232	38

AMERICA ON FRANCE.

French money is reduced to American by saying: As the rate of exchange is to 1 dollar, so is the given sum to the sum sought.

Reduce 7232 francs, 38 centimes, to American money; exchange at 5 francs, 30 centimes per dollar.

	fr.	*cen.*		*doll.*		*francs.*	*cen.*		*dolls.*	*cts.*
As	5	30	:	1	: :	7232	38	:	1364	60

AMSTERDAM.

MONIES OF EXCHANGE.

Exchanges are computed in Florins, Stivers, and Pennings; or in Pounds, Shillings and Pence, Flemish.

---

16 Pennings = 1 Stiver; 20 Stivers = 1 Guilder or Florin. Also, 12 Grotes or Pence Flemish, or 6 Stivers = 1 Shilling Flemish; 20 Shillings Flemish, or 6 Florins = 1 Pound Flemish; 2½ Florins, or 50 Stivers = 1 Rixdollar.

Course of Exchange from the Amsterdam Quotation.			EXPLANATIONS.	
Antwerp,	4½	per ct.	Amsterdam	receives 104½ flor. for 100 flor. of exchange.
Breslau,	144	"	"	receives 144 rixdol. currency for 100 rixdol.
France,	55	"	"	gives 55 grotes Flemish for 3 francs.
Francfort,	35⅜	"	"	receives 35⅜ stivers for 1 rixdollar.
Genoa,	86	"	"	gives 86 grotes Flemish for 1 pezza of 5⅜ lire.
Hamburgh,	34	"	"	gives 34 stivers for 1 rixdollar of 2 marks.
Leghorn,	93	"	"	gives 93 grotes Flemish for 1 pezza of 8 reals.
Lisbon,	40½	"	"	gives 40½ grotes Flemish for 1 old crusado.
London,	38	"	"	gives 38 shillings for 1 pound sterling.
Naples,	74	"	"	gives 74 grotes for 1 ducato di regno.
Spain,	95	"	"	gives 95 grotes Flem. for 1 ducat of exchange.
Venice,	224	"	"	receives 224 cent. lire Italiane for 1 florin.
Vienna,	14	"	"	gives 14 stivers for 1 rixdollar paper.
Ditto,	34	"	"	gives 34 stivers for 1 rixdol. current effective.

[*For the usances, &c. of Bills of Exchange, see Amsterdam, page* 138.]

AMSTERDAM ON LONDON.

[*See page* 154.]

LONDON ON AMSTERDAM.

[*See page* 154.]

AMSTERDAM ON FRANCE.

Reduce 475 florins, 10 stivers, 12 pennings into French money; exchange at 54 grotes flemish per ecu of 3 francs.

STATEMENT.

Gr. Flem. franc. flor. st. pen.
As 54 : 3 : : 475 10 12 to the sum sought.

Ans. 1056 francs, 75 centimes.

FRANCE ON AMSTERDAM.

Reduce 1056 francs, 75 centimes into Dutch money; exchange at 54 grotes Flemish per ecu of 3 francs.

STATEMENT.

francs. gr. fl. fr.
As 3 : 54 : : 1056 75 to the sum sought.

Ans. 475 florins, 10 stivers, 12 pennings.

AMSTERDAM ON GENOA.

Reduce 4145 florins, 2 stivers, into money of Genoa; exchange at $84\frac{3}{4}$ grotes Flemish per pezza of $5\frac{3}{4}$ lire.

STATEMENT.

grotes. pezza. florins. st.
As $84\frac{3}{4}$: 1 : : 4145 2 to the sum sought.

Ans. 1956 pezza, 7 soldi, 9 den.

To reduce Pezza to Lire.

pezza.	*soldi.*	*den de lira.*
1956	7	9
		23
4)44996	18	3
11249	4	7 Ans.

GENOA ON AMSTERDAM.

Reduce 11249 lire, 4 soldi, 7 denari, into Dutch money; exchange at $84\frac{3}{4}$ grotes Flemish per pezza of $5\frac{3}{4}$ lire.

To reduce Lire to Pezze.

			pez.	*soldi.*	*den di pez.*
11249	4	7			
		4			
23)44996	18	4(	1956	7	9

then

pezza. grotes. pezza. soldi. den.
As 1 : $84\frac{3}{4}$: : 1956 7 9 to the sum sought.

Ans. 4145 florins, 2 stivers.

AMSTERDAM ON HAMBURGH.

Reduce 3309 marks, 12 schillings, into Dutch money; exchange at 32⅞ stivers per rixdollar of 2 marks Hamburgh banco.

STATEMENT.

ma.		*stivers.*		*marks. sch.*
As 2	:	32⅞	: :	3309 12 to the sum sought.

Ans. 2720 florins, 4 stivers.

The exchange of Amsterdam on Hamburgh is sometimes done by giving 120 marks for so many florins current. The operation is then as follows.

Reduce 4080 marks banco into Dutch money; exchange at 106 florins for 120 marks Hamburgh.

STATEMENT.

marks.		*florins.*		*marks.*
As 120	:	106	: :	4080 to the sum sought.

Ans. 3604 florins.

HAMBURGH ON AMSTERDAM.

Reduce 2720 florins, 4 stivers, into Hamburgh money; exchange at 32⅞ stivers per rixdollar of exchange of 2 marks banco.

STATEMENT.

stivers.		*marks.*		*florins. stiv.*
As 32⅞	:	2	: :	2720 4 to the sum sought.

Ans. 3309 marks, 12 schillings.

The exchange of Hamburgh on Amsterdam, is sometimes done at so many florins current, for 120 marks banco. The operation is then as follows.

Reduce 3604 florins current into Hamburgh money; exchange at 106 florins current for 120 marks Hamburgh banco.

STATEMENT.

florins.		*marks.*		*florins.*
As 106	:	120	: :	3604 to the sum sought.

Ans. 4080 marks.

AMSTERDAM ON LEGHORN.

Reduce 9800 Dutch florins into money of Leghorn; exchange at 87½ grotes Flemish per pezza of 8 reals.

STATEMENT.

gr.		*pez.*		*florins.*
As 87½	:	1	: :	9800 to the sum sought.

Ans. 4480 pezze.

LEGHORN ON AMSTERDAM.

Reduce 4480 pezze of 8 reals into Dutch money; exchange at 87½ grotes Flemish per pezza.

STATEMENT.

pezza.		*grotes.*		*pezze.*
As 1	:	87½	: :	4480 to the sum sought.

Ans. 9800 florins.

AMSTERDAM ON LISBON.

Reduce 557 millrees, 846 rees, into Dutch money; exchange at 46¼ grotes Fl. per crusado of 400 rees.

STATEMENT.

rees. grotes. millrees.
As 400 : 46¼ : : 557,846 to the sum sought.

Ans. 1612 fl. 10 st. 8 pen.

LISBON ON AMSTERDAM.

Reduce 1612 florins, 10 stivers, 8 pennings, into Portugal money; exchange at 46¼ grotes Flemish per crusado of 400 rees.

STATEMENT.

grotes. rees. fl. sti. pen.
As 46¼ : 400 : : 1612 10 8 to the sum sought.

Ans. 557 millrees, 846 rees.

AMSTERDAM ON SPAIN.

Reduce 956 dollars, 6 reals of plate, into Dutch money; exchange at 94¼ grotes Flemish per ducat of plate.

STATEMENT.

mar. gr. doll. r.
As 375 : 94¼ : : 956 6 to the sum sought.

Ans. 1635 florins, 3 stivers.

SPAIN ON AMSTERDAM.

Reduce 1635 florins, 3 stivers, into Spanish money; exchange at 94¼ grotes Flemish per ducat of 375 maravedis of plate.

STATEMENT.

gr. mar. fl. st.
As 94¼ : 375 : : 1635 3 to the sum sought.

Ans. 956 dollars, 6 reals.

The Exchanges of Antwerp are similar to those of Amsterdam.

AUGSBURG—(IN GERMANY.)

MONIES OF EXCHANGE.

Exchanges are computed here in Florins and Creutzers; and also in Rixdollars and Creutzers.

60 Creutzers = 1 Florin or Gulden. 90 Creutzers or $1\frac{1}{2}$ Florin = 1 Rixdollar of account; 100 Rixdollars Giro, or money of exchange = 127 Rixdollars current, or $190\frac{1}{2}$ Florins current; 2 Florins = 1 Rixdollar, specie.

Course of exchange from the Augsburg Quotation, Jan. 1820.			EXPLANATION.
Amsterdam,	110	Augsburg	gives 110 rixdollars giro, for 100 rixdollars.
France,	120	"	gives 120 florins current, for 100 ecus of 3 francs
Francfort,	102	"	gives 102 rixdolls. current, for 100 rixdolls. current.
Genoa,	62	"	receives 62 soldi fuori banco, for 1 florin current.
Hamburgh,	118	"	gives 118 rixdollars giro, for 100 rixdollars banco.
Leghorn,	57	"	receives 57 soldi moneta buona, for 1 floren current.
Leipsic,	99	"	gives 99 rixdolls. current, for 100 rixdolls. of ex.
London,	9 45	"	gives 9 flor. 45 creutzers current, for £1 sterling.
Milan,	67	"	receives 67 soldi current, for 1 florin current.
Nuremberg,	101	"	gives 101 florins current, for 100 florins current.
Vienna,	106	"	receives 106 florins, for 100 florins current.

[*For the usances, &c. of Bills of Exchange see Augsburg, page* 138.]

AUGSBURG ON AMSTERDAM.

Reduce 1197 florins 18 stivers $5\frac{1}{2}$ pennings into Augsburg currency; exchange at 112 rixdollars money of exchange per 100 rixdollars of Amsterdam, each $2\frac{1}{2}$ florins.

AMSTERDAM ON AUGSBURG.

Reduce 1022 florins 21 creutzers, Augsburg currency, into Dutch money; exchange at 112 rixdollars money of exchange per 100 rixdollars of Amsterdam.

[127 rixd. current = 100 rixd. of exchange.]

STATEMENT.

rixd. *rixd. of ex.* *fl.* *st.* *pen.*
As 100 : 112 : : 1197 18 $5\frac{1}{2}$ to the sum sought.

Ans. 1022 florins 21 cr. current.

STATEMENT.

rixd. cur. *r. d. of ex.* *fl.* *cr.*
As 127 : 100 : : 1022 21 to the sum sought.

Ans. $536\frac{2}{3}$ rixdollars of ex.

rixd. ex. *rixd.* *rixd.* *cr.*
And as 112 : 100 : : 536 60 to the sum sought.

Ans. 1197 florins 18 sti. $5\frac{1}{2}$ pen.

AUGSBURG ON FRANCE.

Reduce 2542 francs 50 centimes into money of Augsburg; exchange at 124 rixdollars currency per 100 ecus of 3 francs.

STATEMENT.

francs. rixdols. francs.
As 300 : 124 : : 2542,50 to the sum sought.

Ans. 1576 florins 21 creutzers.

FRANCE ON AUGSBURG.

Reduce 1576 florins, 21 creutzers, Augsburg currency, into French money; exchange at 124 rixdollars per 100 ecus of 3 francs.

STATEMENT.

rixdols. francs. florins. cr.
As 124 : 300 : : 1576 21 to the sum sought.

Ans. 2542 francs 50 centimes.

AUGSBURG ON GENOA.

Reduce 11616 lire, 19 soldi, 10 denari fuori banco, into money of Augsburg; exchange at 62 soldi per florin, Augsburg currency.

STATEMENT.

soldi. florin. lire. soldi den.
As 62 : 1 : : 11616 19 10 to the sum sought.

Ans. 3747 florins, 25 creutzers.

GENOA ON AUGSBURG.

Reduce 3747 florins, 25 creutzers, Augsburg currency, into money of Genoa; exchange at 62 soldi fuori banco per florin.

STATEMENT.

florin. soldi. florins. creut.
As 1 : 62 : : 3747 25 to the sum sought.

Ans. 11616 lire, 19 soldi, 10 den.

AUGSBURG ON HAMBURG.

Reduce 3546 marks, 6 schillings, 4 pfenings banco, into money of Augsburg; exchange at 144 rixdollars, Augsburg currency per 100 rixdollars Hamburgh banco.

HAMBURG ON AUGSBURG.

Reduce 2553 florins, 24 creutzers, Augsburg currency, into Hamburgh banco; exchange at 144 rixdollars of Augsburg, per 100 rixdollars, Hamburgh banco.

[60 Creutzers = 1 Florin, 90 Creutzers = 1 Rixdollar of account.]

STATEMENT.

rixdolls. H. rixdolls. A. marks. sch. ph..
As 100 : 144 : : 3546 6 4 to the sum sought.

Ans. 2553 florins, 24 creut.

STATEMENT.

rixdolls. A. rixdolls. H. florin. cr.
As 144 : 100 : : 2553 24 to the sum sought.

Ans. 3546 marks, 6 sch. 4 pfe.

N. B. The exchanges of Augsburg with Leghorn are performed on the same principle as the above with Genoa; and those of London with Augsburg are the same as with Vienna.

BERLIN AND BRESLAU.

MONIES OF EXCHANGE.

Exchanges are computed here in Rixdollars, good Groschen, and Pfenings, currency.

---

12 Pfenings = 1 good Grosche. 24 good Groschen = 1 Rixdollar currency, or Rixdollar of Account.

Course of Exchange, from the Berlin Quotation.		EXPLANATION.
Amsterdam,	147½	Berlin gives 147½ Rixds. currt. for 250 Florins, or 100 Rixdollars.
Augsburg,	102	" " 102 " " for 100 Rixds. Convention money.
France,	79	" " 79 " " for 100 Ecus of Francs.
Francfort,	105	" " 105 " " for 100 Rixds. current.
Hamburgh, in banc.	150	" " 150 " " for 100 Rixd. banco.
Konigsberg,	100⅔	" " 100⅔ " " for 100 Rixds. current.
Leipsic,	104	" " 104 " " for 100 Rixds. Convention money.
London,	6 14	" " 6 14 " " Grosc. for £1 sterling.
Vienna,	41	" " 41 " " current, for 100 Rixds. current.

[*For the usances, &c. of Bills of Exchange, see Berlin and Breslau, page* 138.]

BERLIN ON AMSTERDAM.

Reduce 4656 florins, 5 stivers, into Prussian money; exchange at 146 rixdollars Prussian currency per 100 rixdollars of Amsterdam.

STATEMENT.

	rixd. Dutch.		*rixd. Pruss.*		*fl.*	*sti.*	
As	100	:	146	: :	4656	5	to the sum sought.

Ans. 2719 rixdols. 6 groschen.

AMSTERDAM ON BERLIN.

Reduce 2719 rixdollars, 6 good groschen, Prussian currency, into Dutch money; exchange at 146 rixdollars Prussian per 100 rixdollars Dutch.

STATEMENT.

	rixd. Pruss.		*rixd. Dutch.*		*rixd.*	*grosch.*	
As	146	:	100	: :	2719	6	to the sum sought.

Ans. 4656 florins, 5 stivers.

BERLIN ON FRANCE.

Reduce 1943 francs, 75 centimes, into Prussian money; exchange at 76 rixdollars, Prussian currency, per 100 Ecus of 3 francs.

STATEMENT.

francs. rixdolls. francs. centimes.
As 300 : 76 : : 1943 75 to the sum sought.

Ans. 492 rixdollars, 10 groschen.

FRANCE ON BERLIN.

Reduce 492 rixdollars, 10 groschen, Prussian currency, into French money; exchange at 76 rixdollars per 100 Ecus of 3 francs.

STATEMENT.

rixdolls. francs. rixdolls. grosch.
As 76 : 300 : : 492 10 to the sum sought.

Ans. 1943 francs, 75 centimes.

BERLIN ON HAMBURGH.

Reduce 1908 marks, 5 schillings, 4 pfenings banco, into Prussian currency; exchange at 145½ Prussian rixdollars, per 100 rixdollars Hamburgh banco.

STATEMENT.

rixdol.banco. rixdol. pr. marks sch. pfn.
As 100 : 145½ : : 1908 5 4 to the sum sought.

Ans. 925 rixdolls. 13 gr.

HAMBURGH ON BERLIN.

Reduce 925 rixdollars, 13 good groschen, Prussian currency, into Hamburgh banco; exchange at 145½ Prussian rixdollars per 100 rixdollars, Hamburgh banco.

STATEMENT.

rixdolls. pr. rixdolls. bco. rixdolls. gr.
As 145½ : 100 : : 925 13 to the sum sought.

Ans. 1908 marks, 5 schill. 4 pfen.

BERLIN ON LONDON.

Reduce £115 13s. 4d. sterling, into Prussian currency; exchange at 6¾ rixdollars per £ sterling.

STATEMENT.

£ rixdolls. £ s. d.
As 1 : 6¾ : : 115 13 4 to the sum sought.

Ans. 780 rixdols. 18 groschen.

LONDON ON BERLIN.

Reduce 780 rixdollars, 18 good groschen, Prussian currency, into sterling; exchange at 6¾ rixdollars per £ sterling.

STATEMENT.

rixdols. £ rixdols. gros.
As 6¾ : 1 : : 780 18 to the sum sought.

Ans. £115 13s. 4d.

N. B. The exchanges between Berlin and most other cities in Germany are computed by a per centage, like those with Amsterdam and Hamburgh, and the calculations are, of course, similar. Examples of those cities are therefore deemed unnecessary, as well as between places where there is little or no commercial intercourse.

BOLOGNA—(SEE ROME.)

BREMEN—(IN GERMANY.)

MONIES OF EXCHANGE.

Exchanges are computed in Rixdollars, Grotes, and Swares.

---

5 Swares = 1 Grote. 32 Grotes = 1 Bremen Mark. 72 Grotes, or 2¼ Marks = 1 Rixdollar of Account.

96 Grotes, or 1⅓ Rixdollars of Account = 1 Rixdollar specie.

Course of Exchange from the Bremen Quotation.				EXPLANATION.
Amsterdam,	143	Bremen,	gives	143 rixdollars for 100 rixdollars.
France,	20	“	“	20 grotes for 1 franc.
Francfort,	110	“	“	110 rixds. for rixds. convention money.
Hamburgh,	142	“	“	142 “ for 100 rixdollars banco.
Leipsic,	104	“	“	104 “ for 100 rixdolls. currency.
London,	605	“	“	605 “ for £100 sterling.
Nuremberg,	104	“	“	104 “ for 100 rixdolls. currency.
Vienna,	90	“	“	90 “ for 100 rixdolls. currency.

[*For the usances, &c. of Bills of Exchange, see Bremen, page* 138.]

BREMEN ON HAMBURGH.

Reduce 7817 marks, 11 schillings, 4 pfenings banco, into money of Bremen; exchange at 140 rixdollars, Bremen currency, for 100 rixdollars, Hamburgh banco.

STATEMENT.

	rixd. Ham.		*rixd. Br.*		*marks.*	*sch.*	*pf.*
As	100	:	140	: :	7817	11	4

to the sum sought.

Ans. 3648 rixdolls. 19 grotes.

HAMBURGH ON BREMEN.

Reduce 3648 rixdollars, 19 grotes, Bremen currency, into money of Hamburgh; exchange at 140 rixdollars Bremen, per rixdolls. 100 Hamburgh banco.

STATEMENT.

	rixd. Br.		*rixd. Ham.*		*rixd.*	*grotes.*	
As	140	:	100	: :	3648	19	to

the sum sought.

Ans. 7817 marks, 11 sch. 4 pfn.

BREMEN ON LONDON.

Reduce £383 6s. 8d. sterling, into money of Bremen; exchange at 604½ rixdollars per £100 sterling.

STATEMENT.

£ *rixdolls.* £ *s.* *d.*
As 100 : 604½ : : 383 6 8 to the sum sought.

Ans. 2317 rixdollars, 18 gr.

LONDON ON BREMEN.

Reduce 2317 rixdollars, 18 grotes, Bremen currency, into sterling; exchange at 604½ rixds. per £100 sterling.

STATEMENT.

rixdolls. £ *rixdolls. gr.*
As 604½ : 100 : : 2317 18 to the sum sought.

Ans. £383 6s. 8d.

The exchanges between Bremen and other places, are similar to the above, as may be seen by the quotation.

CONSTANTINOPLE.

MONIES OF EXCHANGE.

Exchanges are computed in Piastres, Paras, and Aspers; or in Piastres and Aspers; sometimes in Piastres and half Paras, or in Piastres and Minas.

3 Aspers = 1 Para; 40 Paras or 120 Aspers = 1 Piastre or Turkish Dollar.

---

80 half Paras or 100 Minas, also called Aspers = 1 Piastre.

Course of Exchange, from the Constantinople Quotation.			EXPLANATION.
Amsterdam,	115	Constantinople	gives 115 paras for 1 florin.
France,	14½	"	receives 14½ sols for 1 piastre.
Genoa,	44	"	gives 44 paras for 1 lira fuori banco.
Hamburgh,	20	"	receives 20 grotes Flemish for 1 piastre.
Leghorn,	283	"	gives 283 paras for 1 pezza of 8 reals.
London,	35	"	gives 35 piastres for £1 sterling.
Malta,	124	"	gives 124 paras for 1 scudo.
Russia,	73	"	receives 73 copecs for 1 piastre.
Smyrna,	100½	"	receives 100½ piastres for 100 piastres.
Trieste,	140	"	gives 140 paras for 1 florin current.
Venice,	80	"	receives 80 centimes for 1 piastre.
Vienna,	140	"	gives 140 paras for 1 florin current.

[*For the usances, &c. of Bills of Exchange, see Constantinople, page* 139.]

CONSTANTINOPLE ON AMSTERDAM.

Reduce 2904 florins, 12 stivers, 2 pennings, into Turkish money; exchange 61 paras per florin.

STATEMENT.

	florin.		*paras.*		*florins.*	*st.*	*pen.*	
As	1	:	61	: :	2904	12	2	to the sum sought.

Ans. 4429 dollars, 21 paras.

AMSTERDAM ON CONSTANTINOPLE.

Reduce 4429 Turkish dollars, 21 paras, into Dutch money; exchange at 61 paras per florin.

STATEMENT.

	paras.		*florin.*		*dolls.*	*paras.*	
As	61	:	1	: :	4429	21	to the sum sought.

Ans. 2904 flor. 12 stiv. 2 pen.

As the Turkish monies are subject to continual variation, the old prices are retained in these examples, being equally proper to exemplify the operations.

CONSTANTINOPLE ON FRANCE.

Reduce 8903 francs, 7 centimes of France, into Turkish money; exchange at 1 franc, 38 centimes per piastre.

STATEMENT.

franc. cent. *doll.* *francs. cent.*
As 1 38 : 1 : : 8903 7 to the sum sought.

Ans. 6451 dollars, 20 paras.

FRANCE ON CONSTANTINOPLE.

Reduce 6451 Turkish dollars, 20 paras, into French money; exchange at 1 franc, 38 centimes per piastre.

STATEMENT.

doll. *franc. cent.* *dolls. paras.*
As 1 : 1 38 : : 6451 20 to the sum sought.

Ans. 8903 francs, 7 centimes.

The most general mode of quoting the exchange is in French sols for the piastre. The sol, in such case, is considered as $\frac{1}{20}$ of the franc, or 5 centimes, thus:—

Reduce 5385 francs, 84 centimes, into piastres; exchange at 14½ sols per piastre.

STATEMENT.

sols. *piastre.* *francs. cent.*
As 14,5 : 1 : : 5385 84 to the sum sought.

Ans. 7428 piastres, 30 paras.

Reduce 7428 piastres, 30 paras, into French money; exchange at 14½ sols per piastre.

STATEMENT.

piastre. *sols.* *piastre. paras.*
As 1 : 14,5 : : 7428 30 to the sum sought.

Ans. 5385 francs, 84 centimes.

CONSTANTINOPLE ON LEGHORN.

Reduce 264 pezze, 10 soldi, 8 denari, into Turkish money; exchange at 142½ paras per pezza.

STATEMENT.

pez. *paras.* *pezze. sold. den.*
As 1 : 142½ : : 264 10 8 to the sum sought.

Ans. 942 dollars, 16 paras.

LEGHORN ON CONSTANTINOPLE.

Reduce 942 Turkish dollars, 16 paras, into money of Leghorn; exchange at 142½ paras per pezza of 8 reals.

STATEMENT.

par. *pez.* *dolls. par.*
As 142½ : 1 : : 942 16 to the sum sought.

Ans. 264 pez. 10 sol. 8 den.

CONSTANTINOPLE ON LONDON.

Reduce £81 2s. 7d. sterling, into Turkish money; exchange at 18 Turkish dollars per £ sterling.

STATEMENT.

£ dolls. £ s. d.
As 1 : 18 : : 81 2 7 to the sum sought.

Ans. 1460 dollars, 13 paras.

LONDON ON CONSTANTINOPLE.

Reduce 1460 Turkish dollars, 13 paras, into sterling; exchange at 18 dollars per £ sterling.

STATEMENT.

dolls. £ dolls. par.
As 18 : 1 : : 1460 13 to the sum sought.

Ans. £81 2s. 7d.

CONSTANTINOPLE ON VENICE.

Reduce 10420 lire, 13 soldi, 4 denari piccoli, into Turkish money; exchange at 354 paras per sequin of 22 lire.

STATEMENT.

lire. paras. lire. sol. den.
As 22 : 354 : : 10420 13 4 to the sum sought.

Ans. 4191 dollars, 38 paras.

VENICE ON CONSTANTINOPLE.

Reduce 4191 Turkish dollars, 38 paras, into Venitian money; exchange at 354 paras per sequin of 22 lire piccolle.

STATEMENT.

paras. lire. dolls. paras.
As 354 : 22 : : 4191 38 to the sum sought.

Ans. 10420 lire, 13 soldi, 4 denari.

CONSTANTINOPLE ON VIENNA.

Reduce 3737 florins, 48 creutzers, into Turkish money; the exchange of Vienna with Constantinople being at 50 paras per florin.

STATEMENT.

flo. paras. flo. cr.
As 1 : 50 : : 3737 48 to the sum sought.

Ans. 4672 dollars, 10 paras.

VIENNA ON CONSTANTINOPLE.

Reduce 4672 Turkish dollars, 10 paras, into Austrian money; the exchange of Constantinople with Vienna being at 50 paras per florin.

STATEMENT.

paras. flo. dolls. par.
As 50 : 1 : : 4672 10 to the sum sought.

Ans. 3737 florins, 48 creutzers.

COPENHAGEN—(IN DENMARK.)

MONIES OF EXCHANGE.

Exchanges are computed here in Rixdollars, Marks, and Skillings, Danish; but sometimes in Rixdollars, Marks, and Schillings Lubs. Pfenings are also occasionally reckoned.

---

12 Pfenings = 1 Skilling. 16 Skillings = 1 Mark. 6 Marks Danish, or 3 Marks Lubs = 1 Ryksdaler or Rixdollar. Thus, 2 Pfenings, Skillings, or Marks Danish = 1 Pfening, Schilling, or Mark Lubs.

Course of Exchange from the Copenhagen Quotation.			EXPLANATION.
Amsterdam,	143	Copenhagen	gives 143 rixds. Dan. currency, for 100 rixds.
France,	25	"	gives 25 skillings Danish, for 1 franc.
Hamburgh,	149¼	"	gives 149¼ rixds. do. for 100 rixds. banco.
London,	6 33	"	gives 6 rixds. 33 skillings for £1 sterling.
Stockholm,	36	"	receives 36 skillings for 1 rixdollar.

[*For the usances, &c. of Bills of Exchange, see Copenhagen, page* 139.]

COPENHAGEN ON AMSTERDAM.

Reduce 1310 florins, 4 stivers, 13 pennings into Danish money; exchange at 127 rixdollars, Danish, per 100 rixdollars Dutch current, and the agio of banco on current being 3¾ per cent.

STATEMENT.

rixd. cur. banco. flor. stiv. pen. banco.
As 100 : 103¾ : : 1310 4 13 to the sum sought.

Ans. 1359 flor. 7 stivers, 8 pen. cur.

rixd. Dutch. rixd. Danish. flo. sti. pen.
And as 100 : 127 : : 1359 7 8 to the sum required.

Ans. 690 rixds. 3 marks, 6 skillings.

AMSTERDAM ON COPENHAGEN.

Reduce 690 rixdollars, 3 marks, 6 skillings Danish, into Dutch banco; exchange at 127 rixdollars Danish, per 100 rixdollars Dutch current, and the agio of banco on current being 3¾ per cent.

STATEMENT.

rixd. Danish. rixd. cur. rixd. mks. sks.
As 127 : 100 : : 690 3 6 to the sum sought.

Ans. 1359 flor. 7 stiv. 8 pen. current.

flo. st. pen. cur.
And as 103¾ : 100 : : 1359 7 8 to the sum required.

Ans. 1310 flor. 4 stiv. 13 pen.

COPENHAGEN ON FRANCE.

Reduce 6698 francs, 36 centimes, into Danish money; exchange at 72½ rixdollars per 100 ecus of 3 francs.

STATEMENT.

francs. rixd. francs.
As 300 : 72½ : : 6698,36 to the sum sought.

Ans. 1618 rixd. 4 marks, 10 skil.

FRANCE ON COPENHAGEN.

Reduce 1618 rixdollars, 4 marks, 10 skillings Danish, into French money; exchange at 72½ rixdollars per 100 ecus of 3 francs.

STATEMENT.

rixd. francs. rixd. mks. skill.
As 72½ : 300 : : 1618 4 10 to the sum sought.

Ans. 6698 francs, 36 centimes.

COPENHAGEN ON HAMBURGH.

Reduce 12354 marks, 11 schillings, Hamburgh banco, into Danish money; exchange at 142 rixdollars Danish, per 100 rixdollars banco.

STATEMENT.

rixdolls. bco. rixd. Dan. marks. sch.
As 100 : 142 : : 12354 11 to the sum sought.

Ans. 5847 rixdolls. 5 marks, 5 sks.

HAMBURGH ON COPENHAGEN.

Reduce 5847 rixdollars, 5 marks, 5 skillings Danish, into Hamburgh money; exchange at 142 rixdollars Danish, per 100 rixdollars Hamburgh banco.

STATEMENT.

rixd. Dan. rixd bco. rixdolls. mks. ski.
As 142 : 100 : : 5847 5 5 to the sum sought.

Ans. 12354 marks, 11 sch. lubs.

COPENHAGEN ON LONDON.

Reduce £621 16s. 3d. sterling, into Danish money; exchange at 6 rixdollars, 1 mark Danish, per £ sterling.

STATEMENT.

£ rixd. mark. £ s. d.
As 1 : 6 1 : : 621 16 3 to the sum sought.

Ans. 3834 rixdolls. 3 marks, 1 skill.

LONDON ON COPENHAGEN.

Reduce 3834 rixdollars, 3 marks, 1 skilling Danish, into sterling; exchange at 6 rixdollars, 1 mark per £ sterling.

STATEMENT.

rixd mrk. £ rixd. mrks. sk.
As 6 1 : 1 : : 3834 3 1 to the sum sought.

Ans. £621 16s. 3d.

DANTZIC—(IN PRUSSIA.)

MONIES OF EXCHANGE.

Exchanges are computed here in Florins, Groschen, and Pfenings.

3 Pfenings = 1 Groschen. 30 Groschen = 1 Florin or Gulden. 3 Florins = 1 Rixdollar.

Course of Exchange from the Dantzic Quotation.			EXPLANATION.
Amsterdam,	314	Dantzic	gives 314 groscen for 1 pound Flemish.
France,	98	"	gives 98 rixdollars for 100 ecus of 3 francs.
Francfort,	88	"	gives 88 groschen for 1 rixdollar.
Hamburgh,	141	"	gives 141 groschen for 1 rixdollar specie.
Leipsic,	104	"	gives 104 rixdollars for 100 rixdollars.
London,	19⅓	"	gives 19⅓ florins for £1 sterling.
Stockholm,	9½	"	receives 9½ skillings for 1 florin.

[*For the usances of Bills of Exchange, see Dantzic, page* 139.]

DANTZIC ON AMSTERDAM.

Reduce 1881 florins, 16 stivers, into Dantzic money; exchange at 415 Dantzic grochen per £ Flemish.

STATEMENT.

	£ Flem.		*groschen.*		*florins.*	*stiv.*	
As	1	:	415	: :	1881	16	to the sum sought.

Ans. 4338 flor. 17 grosch. 15 pfen.

AMSTERDAM ON DANTZIC.

Reduce 4338 florins, 17 groschen, 15 pfenings, Dantzic currency, into Dutch money; exchange at 415 groschen per £ Flemish.

STATEMENT.

	grosch.		*£ Flem.*		*flor.*	*gr.*	*pfen.*	
As	415	:	1	: :	4338	17	15	to the sum sought.

Ans. 1881 flor. 16 stiv.

DANTZIC ON HAMBURGH.

Reduce 837 marks, 4 schillings banco, into Dantzic money; exchange at 168 groschen per rixdollar banco.

STATEMENT.

	rixd.		*marks.*		*groschen.*		*marks.*	*sch.*	
As	1	or	3	:	168	: :	837	4	to the sum sought.

Ans. 1562 flor. 26 grosch.

HAMBURGH ON DANTZIC.

Reduce 1562 florins, 26 groschen, Dantzic currency, into Hamburgh banco; exchange at 168 groschen per rixdollar banco.

STATEMENT.

	groschen.		*rixd.*		*marks.*		*florins.*	*grosch.*	
As	168	:	1	or	3	: :	1562	26	to the sum sought.

Ans. 837 marks, 4 sch.

FRANCE.

MONIES OF EXCHANGE.

Exchanges are computed here in Francs and Centimes ; or in Livres, Sous, and Deniers.

---

10 Centimes = 1 Decime. 10 Decime or 100 Centimes = 1 Franc. 12 Deniers = 1 Sou or Sol. 20 Sous = 1 Livre Tournois. 80 Francs = 81 Livres. 3 Livres or 3 Francs = 1 Ecu of exchange.

Course of Exchange from the Paris Quotation.		EXPLANATION.	
Amsterdam,	53¾	Paris	receives 53¾ grotes Flemish, for 1 ecu of 3 francs.
Augsburg,	249	“	gives 249 centimes for 1 florin current.
Basil,	1 perte,	“	gives 101 livres for 100 livres.
Berlin,	3 80	“	gives 3 francs, 80 centimes for 1 rixdollar.
Francfort,	75	“	receives 75 rixdollars current for 100 ecus.
Geneva,	162	“	gives 162 francs for 100 livres current.
Genoa,	465	“	gives 465 centimes for 1 pezza of 5¾ lire.
Hamburgh,	185	“	gives 185 francs for 100 marks banco.
Leghorn,	503	“	gives 503 centimes for 1 pezza of 8 reals.
Lisbon,	520	“	receives 520 rees for 1 ecu of 3 francs.
London,	24	“	gives 24 francs for £1 sterling.
Milan,	8 6	“	receives 8 lire, 6 soldi for 6 francs.
Naples,	4 20	“	gives 4 francs, 20 centimes for 1 ducato di regno.
Spain,	15 40	“	gives 15 francs, 40 cent. for 1 doubloon of exch.
Vienna,	257	“	gives 257 francs for 100 florins effective.

[*For the usances, &c. of Bills of Exchange, see France, page* 139.]

FRANCE ON LONDON.
[*See page* 154.]

FRANCE ON AMSTERDAM.
[*See page* 166.]

FRANCE ON AUGSBURG.
[*See page* 170.]

FRANCE ON GENEVA.
[*See page* 189.]

LONDON ON FRANCE.
[*See page* 154.]

AMSTERDAM ON FRANCE.
[*See page* 166.]

AUGSBURG ON FRANCE.
[*See page* 170.]

GENEVA ON FRANCE.
[*See page* 189.]

FRANCE ON GENOA.

Reduce 1382 lire, 3 soldi, 1½ denari, into French money; exchange at 4 francs, 80 centimes per pezza.

STATEMENT.

1382 3 1½
4
pez. sol. den. di pez.
23)5528 12 6(240 7 6
46
92 &c.

pez. *francs.* *pez. sol. den.*
Then as 1 : 4,80 : : 240 7 6 to the sum sought.

Ans. 1153 francs, 80 centimes.

GENOA ON FRANCE.

Reduce 1153 francs, 80 centimes, into money of Genoa; exchange at 4 francs, 80 centimes per pezza of 5¾ lire.

STATEMENT.

francs. *pezza.* *francs. cts.*
As 4,80 : 1 : : 1153 80 to the sum sought.

Ans. 240 pezze, 7 soldi, 6 den. di pez.

But if the answer be required in lire, say,

pez. sol. den. di pez.
As 4 : 23 : : 240 7 6 to the sum sought.

Ans. 1382 lire, 3 soldi, 1½ den. di L.

FRANCE ON HAMBURGH.

Reduce 3492 marks, 15 schillings, 6 pfenings banco, into French money; exchange at 25½ schillings, lubs banco, per ecu of 3 francs.

STATEMENT.

schill. *francs.* *marks.* *sch.* *pf.*
As 25½ : 3 : : 3492 15 6 to the sum sought.

Ans. 6575 francs.

HAMBURGH ON FRANCE.

Reduce 6575 francs into Hamburgh money; exchange at 25½ schillings, lubs banco per ecu of 3 francs.

STATEMENT.

francs. *sch.* *francs.*
As 3 : 25½ : : 6575 to the sum sought.

Ans. 3492 marks, 15 sch. 6 pfen. bco.

FRANCE ON LEGHORN.

Reduce 760 pezze, 7 soldi, 6 denari, into French money; exchange at 5 fr. 20 centimes per pezza of 8 reals.

STATEMENT.

pezza. *francs.* *pez* *sol.* *den.*
As 1 : 5,20 : : 760 7 6 to the sum sought.

Ans. 3953 francs, 95 centimes.

LEGHORN ON FRANCE.

Reduce 3953 francs, 95 centimes, into money of Leghorn; exchange at 5 fr. 20 centimes per pezza of 8 reals.

STATEMENT.

francs. *pez.* *francs.*
As 5,20 : 1 : : 3953,95 to the sum sought.

Ans. 760 pezze, 7 sol. 6 den.

FRANCE ON LISBON.

Reduce 617 mill, 334 rees, into French money; exchange at 465 rees per ecu of 3 francs.

STATEMENT.

rees. *francs.* *millrees.*
As 465 : 3 : : 617,334 to the sum sought.

Ans. 3982 francs 80 centimes.

But if the sum were given in crusades, they are reduced to millrees by multiplying by 4, cutting off the last figure, and to this figure adding the first of the rees, as in the following example:

Reduce 1543 crusades, 134 rees, into millrees, &c.

1543 134
4

617,2
134

,334

Ans. 617 mill. 334 rees.

LISBON ON FRANCE.

Reduce 3982 francs, 80 centimes, into money of Portugal; exchange at 465 rees per ecu of 3 francs.

STATEMENT.

francs. *rees.* *francs.* *cent.*
As 3 : 465 : : 3982 80 to the sum sought.

Ans. 617 mill, 334 rees.

But if the answer were required in crusades, the last two figures should be cut off, and the others divided by 4; thus,—

4)6173,34

1543 crusades, 134 rees.

FRANCE ON MILAN.

Reduce 4536 lire, 17 soldi, 6 denari, into French money; exchange at 7 lire 10 soldi per 6 francs.

STATEMENT.

lire. soldi. francs. lire. soldi. den.
As 7 10 : 6 : : 4536 17 6 to the sum sought.

Ans. 3629 francs, 50 centimes.

Exchanges have been recently transacted between Milan and France, by giving Italian livres for francs, with a per centage on the latter; as in the annexed example.

MILAN ON FRANCE.

Reduce 3629 francs, 50 centimes, into money of Milan; exchange at 7 lire 10 soldi per 6 francs.

STATEMENT.

francs. lire. soldi. francs.
As 6 : 7 10 : : 3629,50 to the sum sought.

Ans. 4536 lire, 17 soldi, 6 den.

Reduce 3629 francs, 50 centimes, into Italian livres; exchange at 99 francs for 100 Italian livres.

STATEMENT.

francs. Ital. liv. francs.
As 99 : 100 : : 3629,50 to the sum sought.

Ans. 3666,06 Italian livres.

FRANCE ON NAPLES.

Reduce 580 ducats, 56 grains, into French money; exchange at 4 francs 25 centimes per ducato di regno.

STATEMENT.

ducat. francs. ducats.
As 1 : 4,25 : : 580,56 to the sum sought.

Ans. 2467 francs, 38 centimes.

NAPLES ON FRANCE.

Reduce 2467 francs, 38 centimes, into money of Naples; exchange at 4 francs 25 centimes per ducato di regno.

STATEMENT.

francs. ducat. francs.
As 4,25 : 1 : : 2467,38 to the sum sought.

Ans. 580 ducats, 56 grains.

FRANCE ON SPAIN.

Reduce 1777 dollars, 7 reals, 2 maravedis of plate, into French money; exchange at 14 francs, 45 centimes per doubloon of exchange of 4 dols. of plate.

STATEMENT.

dolls. francs. dolls. reals. mar.
As 4 : 14,45 : : 1777 7 2 to the sum sought.

Ans. 6422 francs, 60 centimes.

SPAIN ON FRANCE.

Reduce 6422 francs, 60 centimes, into Spanish money; exchange at 14 francs 45 centimes per doubloon of exchange of 4 dollars of plate.

STATEMENT.

francs. dolls. francs.
As 14,45 : 4 : : 6422,60 to the sum sought.

Ans. 1777 dolls. 7 reals, 2 mar.

FRANCE ON VIENNA.

Reduce 6025 florins, 55 creutzers into French money; exchange at 257 francs per 100 florins.

STATEMENT.

florins. francs. florins. crut.
As 100 : 257 : : 6025 55 to the sum sought.

Ans. 15486 francs, 60 centimes.

VIENNA ON FRANCE.

Reduce 15486 francs, 60 centimes, into money of Vienna; exchange at 257 francs per 100 florins.

STATEMENT.

francs. florins. francs.
As 257 : 100 : : 15486,60 to the sum sought.

Ans. 6025 florins, 55 creutzers.

FRANCFORT.—(On the Main in Germany.)

MONIES OF EXCHANGE.

Exchanges are computed in Florins and Creutzers; or in Rixdollars and Creutzers; and also in Florins and Batzen.

---

4 Pfenings = 1 Creutzer. 4 Creutzers = 1 Batze. 60 Creutzers, or 15 Batzen = 1 Florin. 90 Creutzers, or 1½ Florin = 1 Rixdollar of account.

Course of Exchange from the Francfort Quotation.		EXPLANATIONS.
Amsterdam,	140¾ Francfort,	gives 140¾ rixdollars of account, for 100 rixdols.
Augsburg,	100¾ "	gives 100¾ " of account, for 100 do. current.
Basil,	101¼ "	gives 101¼ " for 100 rixdollars in new ecus.
Bremen,	108½ "	gives 108½ " for 100 do. current.
France,	79 "	gives 79 " for 100 ecus of 3 livres.
Hamburgh,	150 "	gives 150 " of account, for 100 rixd. banco.
Leipsic,	100½ "	gives 100½ " for 100 rixdols. in louis d'ors.
London,	149 "	gives 149 batzen for £1 sterling.
Vienna,	40 "	gives 40 florins for 100 florins current.

[*For the usances, &c. of Bills of Exchange, see Francfort, page* 141.]

FRANCFORT ON AMSTERDAM.

Reduce 6165 florins, 9 stivers, 11 pennings into money of Francfort; exchange at 141 rixdollars Francfort currency, per 100 rixdollars of Amsterdam.

STATEMENT.

	rixd. A.		*rixd. F.*		*florins.*	*stiv.*	*pen.*	
As	100	:	141	: :	6165	9	11	to the sum sought.

Ans. 3477 rixd. 30 cr.

AMSTERDAM ON FRANCFORT.

Reduce 3477 rixdollars, 30 creutzers, Francfort currency, into Dutch money; exchange at 141 rixdollars Francfort, per 100 rixdollars of Amsterdam.

STATEMENT.

	rixd. F.		*rixd. A.*		*rixd.*	*cr.*	
As	141	:	100	: :	3477	30	to the sum sought.

Ans. 6165 florins, 9 stiv. 11 pen.

FRANCFORT ON FRANCE.

Reduce 9137 francs, 45 centimes, into money of Francfort; exchange at 76 rixdollars per 100 ecus of 3 livres tournois.

STATEMENT.

francs. liv. francs.
As 80 : 81 : : 9137,45 to the sum sought.

Ans. 9251 livres, 13 sous, 4 deniers.

livres. rixd. livres. sous. den.
And as 300 : 76 : : 9251 13 4 to the sum required.

Ans. 3515 florins, 38 cr.

FRANCE ON FRANCFORT.

Reduce 3515 florins, 38 creutzers, Francfort currency, into French money; exchange at 76 rixdollars per 100 ecus of 3 livres tournois.

STATEMENT.

rixd. livres. florins. cr.
As 76 : 300 : : 3515 38 to the sum sought.

Ans. 9251 livres, 13 sous, 4 den.

livres. fran. livres. sous. den.
And as 81 : 80 : : 9251 13 4 to the sum sought.

Ans. 9137 francs, 45 centimes.

FRANCFORT ON HAMBURGH.

Reduce 5929 marks, 9 schillings, 4 pfenings, Hamburgh banco, into money of Francfort; exchange at 144 rixdollars Francfort, per 100 rixdollars banco.

STATEMENT.

rixd. rixd. F. marks. sc. pfe.
As 100 : 144 : : 5929 9 4 to the sum sought.

Ans. 2846 rixdollars, 18 creutzers.

HAMBURGH ON FRANCFORT.

Reduce 2846 rixdollars, 18 creutzers, Francfort currency, into Hamburgh money; exchange at 144 rixdollars Francfort for 100 rixdollars Hamburgh banco.

STATEMENT.

rixd. F. rixd. banco. rixd. cr.
As 144 : 100 : : 2846 18 to the sum sought.

Ans. 5929 marks, 9 schil. 4 pfen.

FRANCFORT ON LONDON.

Reduce £845 18s. 8d. into money of Francfort; exchange at 142½ batzen per £ sterling.

STATEMENT.

£ batz. £ s. d.
As 1 : 142½ : : 845 18 8 to the sum sought.

Ans. 8036 florins, 22 creutzers.

LONDON ON FRANCFORT.

Reduce 8036 florins, 22 creutzers, Francfort currency, into sterling; exchange at 142½ batzen per £ sterling.

STATEMENT.

batzen. £ florins. cr.
As 142½ : 1 : : 8036 22 to the sum sought.

Ans. £845 18s. 8d.

GENEVA—(IN SWITZERLAND.)

MONIES OF EXCHANGE.

Exchanges are computed here in Livres, Sous, and Deniers; or in Ecus, Livres, &c.

---

12 Deniers = 1 Sou or Sol. 20 Sous = 1 Livre current. 3 Livres = 1 Ecu or Patagon.

Course of Exchange, from the Geneva Quotation.			EXPLANATION.
Amsterdam,	92	Geneva	receives 92 grotes Flemish for 1 ecu.
Augsburg,	128	"	receives 128 rixdollars current for 100 ecus.
Basle,	162	"	receives 162 livres tournois for 106 livres current.
France,	162	"	receives 162 francs for 100 livres current.
Genoa,	98	"	gives 98 ecus for 100 pezze of $5\frac{3}{4}$ lire fuori banco.
Hamburgh,	23	"	gives 23 sous current for 1 mark banco.
Leghorn,	104	"	gives 104 ecus for 100 pezze of 8 reals.
London,	46	"	receives 46 pence sterling for 1 ecu of 3 livres.
Milan,	100	"	gives 100 ecus for 640 lire correnti.
Naples,	$50\frac{3}{4}$	"	gives $50\frac{3}{4}$ sous for 1 ducat.
Palermo,	15 3	"	gives 15 lire, 3 sous for 1 oncia.
Spain,	44	"	gives 44 sous current for 1 dollar of plate.
Turin,	84	"	receives 84 soldi piomentesi for 1 ecu.
Vienna,	128	"	receives 128 rixdollars current for 100 ecus.

[*For usances, &c. of Bills of Exchange, see Geneva, page* 141.]

GENEVA ON AMSTERDAM.

Reduce 2479 florins, 13 stivers, 12 pennings, into money of Geneva; exchange at 92 grotes Flemish per ecu of 3 livres.

STATEMENT.

grotes. liv. florins. stiv. pen.
As 92 : 3 : : 2479 13 12 to the sum sought.

Ans. 3234 liv. 7 sous, 6 deniers.

AMSTERDAM ON GENEVA.

Reduce 3234 livres, 7 sous, 6 deniers, Geneva currency, into Dutch money; exchange at 92 grotes Flemish, per ecu of 3 livres.

STATEMENT.

livres. gro. livres. sous. den.
As 3 : 92 : : 3234 7 6 to the sum sought.

Ans. 2479 florins, 13 stiv. 12 pen.

GENEVA ON FRANCE.

Reduce 1623 francs, 93 centimes, into money of Geneva; exchange at 168 francs per 100 livres current.

STATEMENT.

francs. livres. francs.
As 168 : 100 : : 1623,93 to the sum sought.

Ans. 966 livres, 12 sous, 6 deniers.

FRANCE ON GENEVA.

Reduce 966 livres, 12 sous, 6 deniers, Geneva currency, into French money; exchange at 168 francs per 100 livres current.

STATEMENT.

livres. francs. liv. sous. den.
As 100 : 168 : : 966 12 6 to the sum sought.

Ans. 1623 francs, 93 centimes.

GENEVA ON HAMBURGH.

Reduce 1068 marks, 4 schillings, 2 pfenings banco, into Geneva currency; exchange at 23 sous current per mark banco.

STATEMENT.

mark. sous. marks. sch. pfen.
As 1 : 23 : : 1068 4 2 to the sum sought.

Ans. 1228 livres, 10 sous.

HAMBURGH ON GENEVA.

Reduce 1228 livres, 10 sous, Geneva currency, into Hamburgh money; exchange at 23 sous current per mark Hamburgh banco.

STATEMENT.

sous. mark. livres. sous.
As 23 : 1 : : 1228 10 to the sum sought.

Ans. 1068 marks, 4 schil. 2 pfen.

GENEVA ON LEGHORN.

Reduce 1480 pezze, 8 soldi, 4 denari, into Geneva currency; exchange at 105 ecus per 100 pezze of 8 reals.

STATEMENT.

pez. ecus. pezze. soldi. den
As 100 : 105 : : 1480 8 4 to the sum sought.

Ans. 4663 livres, 6 sous, 3 den.

LEGHORN ON GENEVA.

Reduce 4663 livres, 6 sous, 3 deniers, Geneva currency, into money of Leghorn; exchange at 105 ecus per 100 pezze of 8 reals.

STATEMENT.

ecus. pez. liv. sous. den.
As 105 : 100 : : 4663 6 3 to the sum sought.

Ans. 1480 pezze, 8 soldi, 4 deniers.

GENEVA ON LONDON.

Reduce £458 3s. 11d. sterling, into money of Geneva; exchange at 48d. sterling per ecu of 3 livres current.

STATEMENT.

d. liv. £ s. d.
As 48 : 3 : : 458 3 11 to the sum sought.

Ans. 6872 livres, 18 sous, 9 den.

LONDON ON GENEVA.

Reduce 6872 livres, 18 sous, 9 deniers, Geneva currency, into sterling; exchange at 48d. sterling per ecu of 3 livres current.

STATEMENT.

livres. d. livres. sous. den.
As 3 : 48 : : 6872 18 9 to the sum sought.

Ans. £458 3s. 11d.

GENEVA ON SPAIN.

Reduce 655 dollars, 7 reals of plate, into Geneva currency; exchange at 44 sous current per dollar of plate.

STATEMENT.

doll. *sous.* *dolls. reals.*
As 1 : 44 : : 655 7 to the sum sought.

Ans. 1442 livres, 18 sous, 6 den.

SPAIN ON GENEVA.

Reduce 1442 livres, 18 sous, 6 deniers, into Spanish money of plate; exchange at 44 sous current per dollar of plate.

STATEMENT.

sous. *doll.* *livres.* *sous.* *den.*
As 44 : 1 : : 1442 18 6 to the sum sought.

Ans. 655 dolls. 7 reals.

GENOA—(In Italy.)

MONIES OF EXCHANGE.

Exchanges are computed in Lire, Soldi, and Denari di Lira; or in Pezze, Soldi, and Denari di Pezza; all in money fuori banco.

---

12 Denari = 1 Soldo. 20 Soldi = 1 Lira fuori banco. 5 Lire 15 Soldi fuori banco = 1 Pezza. The Pezza is also divided into 20 Soldi, or 240 Denari di Pezza; thus, 4 Pezze = 23 Lire. 4 Soldi di Pezza = 23 Soldi di Lira. 4 Denari di Pezza = 23 Denari di Lira.

Also, 4 Lire 12 Soldi fuori banco = 1 Scudo di cambio, or Crown of exchange. 10 Lire 16⅕ Soldi fuori banco = 1 Scudo d'oro or Gold Crown. 10 Lire 14 Soldi fuori banco = 1 Scudo d'oro marche.

Course of Exchange, from the Genoa Quotation.		EXPLANATION.
Amsterdam,	89	Genoa receives 89 grotes Flemish for 1 pezza of 5¾ lire.
Augsburg,	61½	" gives 61½ soldi fuori banco for 1 florin current.
Constantinople,	16	" gives 16 soldi or 80 centimes for 1 piastre.
France,	94⅓	" receives 94⅓ sous in francs for 1 pezza of 5¾ lire.
Hamburgh,	45⅓	" gives 45⅓ soldi fuori banco for 1 mark banco.
Leghorn,	123	" gives 123 soldi fuori banco for 1 pezza of 8 reals.
Lisbon,	868	" receives 868 rees for 1 pezza of 5¾ lire.
London,	48	" receives 48 pence sterling for do.
do.	30	" gives 30 lire Italiane for £1 sterling.
Milan,	87¼	" rec. 87¼ soldi correnti for 1 scudo of 4 lira fuori banco.
Naples,	100	" gives 100 soldi fuori banco for 1 ducato di regno.
Palermo,	36½	" receives 36½ grani for 1 lire fuori banco.
do.	15	" gives 15 lire fuori banco for 1 oncia.
Rome,	128	" gives 128 soldi fuori banco for 1 Roman scudo.
Spain,	617	" receives 617 maravedis of plate for 1 scudo d'oro marche.
Trieste,	61¼	" gives 61¼ soldi fuori banco for 1 florin effective.
Venice,	34¼	" receives 34¼ soldi piccoli for 1 lira fuori banco.
Vienna,	61⅞	" gives 61⅞ soldi fuori banco for 1 florin effective.

[*For the usances, &c. of bills of exchange, see Genoa, page* 141.]

GENOA ON LONDON.

[*See page* 156.]

GENOA ON AMSTERDAM.

[*See page* 166.]

GENOA ON FRANCE.

[*See page* 182.]

LONDON ON GENOA.

[*See page* 156.]

AMSTERDAM ON GENOA.

[*See page* 166.]

FRANCE ON GENOA.

[*See page* 182.]

GENOA ON HAMBURGH.

Reduce 1789 marks, 10 schillings, 8 pfenings, Hamburgh banco, into money of Genoa; exchange at 46½ soldi di lira per mark banco.

STATEMENT.

mark. soldi. marks. sch. pfen.
As 1 : 46½ : : 1789 10 8 to the sum sought.

Ans. 4160 lire, 19 soldi, 6 denari.

HAMBURGH ON GENOA.

Reduce 4160 lire, 19 soldi, 6 denari, into Hamburgh money; exchange at 46½ soldi di lira per mark banco.

STATEMENT.

soldi. mark. lire. soldi. den.
As 46½ : 1 : : 4160 19 6 to the sum sought.

Ans. 1789 marks, 10 sch. 8 pfen.

GENOA ON LEGHORN.

Reduce 210 pezze, 16 soldi, 8 denari, into money of Genoa; exchange at 124 soldi fuori banco per pezza of 8 reals.

STATEMENT.

pezza. soldi. pezze. sol. den.
As 1 : 124 : : 210 16 8 to the sum sought.

Ans. 1307 lire, 3 soldi, 4 den.

LEGHORN ON GENOA.

Reduce 1307 lire, 3 soldi, 4 denari, into money of Leghorn; exchange at 124 soldi fuori banco per pezza of 8 reals.

STATEMENT.

soldi. pezza. lire. soldi. den.
As 124 : 1 : : 1307 3 4 to the sum sought.

Ans. 210 pezze, 16 soldi, 8 den.

GENOA ON LISBON.

Reduce 595 millrees, 184 rees, into money of Genoa; exchange at 736 rees per pezza of 5¾ lire fuori banco.

STATEMENT.

rees. lire. millrees.
As 736 : 5¾ : : 595,184 to the sum sought.

Ans. 4649 lire, 17 soldi, 6 den.

LISBON ON GENOA.

Reduce 4649 lire, 17 soldi, 6 denari fuori banco, into money of Portugal; exchange at 736 rees per pezza of 5¾ lire fuori banco.

STATEMENT.

lire. sol. rees. lire. sol. den.
As 5 15 : 736 : : 4649 17 6 to the sum sought.

Ans. 595 millrees, 184 rees.

GENOA ON NAPLES.

Reduce 1612 ducati di regno into money of Genoa; exchange at 104½ soldi fuori banco per ducat.

STATEMENT.

duc. soldi. duc.
As 1 : 104½ : : 1612 to the sum sought.

Ans. 8422 lire, 14 soldi.

NAPLES ON GENOA.

Reduce 8422 lire, 14 soldi fuori banco, into money of Naples; exchange at 104½ soldi fuori banco per ducat.

STATEMENT.

soldi. duc. lire. sol.
As 104½ : 1 : : 8422 14 to the sum sought.

Ans. 1612 ducats.

GENOA ON PALERMO.

Reduce 196 oncie, 24 tari, 2 grani, into money of Genoa; exchange at 34½ grani per lira fuori banco.

STATEMENT.

grani. lira. oncie. tari. gra.
As 34½ : 1 : : 196 24 2 to the sum sought.

Ans. 3422 lire, 13 soldi, 4 den.

PALERMO ON GENOA.

Reduce 3422 lire, 13 soldi, 4 denari fuori banco, into Sicilian money; exchange at 34½ grani per lire fuori banco.

STATEMENT.

lira. gr. lire. sol. den.
As 1 : 34½ : : 3422 14 4 to the sum sought.

Ans. 196 oncie, 24 tari, 2 grani.

GENOA ON SPAIN.

Reduce 468 dollars, 3 reals, 17 maravedis of plate, into money of Genoa; exchange at 640 maravedis of plate per scudo d'oro marche of 10 lire 14 soldi fuori banco.

STATEMENT.

mar. lire. sold. doll. rs. mar.
As 640 : 10 14 : : 468 3 17 to the sum sought.

Ans. 2130 lire, 4 sol. 4 den.

SPAIN ON GENOA.

Reduce 2130 lire, 4 soldi, 4 denari fuori banco, into Spanish money; exchange at 640 maravedis of plate per scudo d'oro marche of 10 lire 14 soldi fuori banco.

STATEMENT.

lire. soldi. mar. lire. sold. den.
As 10 14 : 640 : : 2130 4 4 to the sum sought.

Ans. 468 dolls. 3 reals, 17 maravedis.

GENOA ON VENICE.

Reduce 4673 lire, 13 soldi, 8 denari piccoli, into money of Genoa; exchange at 38 soldi piccoli per lire fuori banco of Genoa.

STATEMENT.

soldi. lira. lire. soldi. den.
As 38 : 1 : : 4673 13 8 to the sum sought.

Ans. 2459 lire, 16 soldi, 8 denari.

VENICE ON GENOA.

Reduce 2459 lire, 16 soldi, 8 denari of Genoa, into money of Venice; exchange at 38 soldi piccoli per lira fuori banco.

STATEMENT.

lira. soldi. lire. sol. den.
As 1 : 38 : : 2459 16 8 to the sum sought.

Ans. 4673 lire, 13 soldi, 8 denari.

HAMBURGH.

MONIES OF EXCHANGE.

Exchanges are computed in Marks, Schillings, and Pfenings, banco or current; or in Pounds, Shillings, and Pence, Flemish banco.

Banco bears an Agio on currency, which is generally from 20 to 25 per cent.

---

12 Pfenings = 1 Schilling, or Sol Lubs. 16 Schillings Lubs = 1 Mark. 3 Marks = 1 Rixdollar. 6 Pfenings = 1 Grote Flemish. 12 Grotes Flemish, or 6 Schillings Lubs = 1 Shilling Flemish. 20 Shillings Flemish, or 7½ Marks = 1 Pound Flemish.

Course of Exchange, from the Hamburgh Quotation.			EXPLANATION.
Amsterdam,	106	Hamburgh	receives 106 rixds. Dutch currency, for 100 rixds.
Augsburg,	148½	"	receives 148½ rixdollars effective, for 100 rixds. banco.
Basil,	25⅛	"	gives 25⅛ schillings banco, for 1 ecu of 3 francs.
Breslau,	41	"	receives 41 rixdolls. Prussian cur. for 100 rixds. banco.
Copenhagen,	149	"	receives 149 rixdollars Danish for 100 rixdolls. banco.
France,	25⅞	"	gives 25⅞ schillings banco for 1 ecu of 3 francs.
Francfort,	148½	"	receives 148½ rixdolls. effective for 100 rixdolls. banco.
Genoa,	80	"	gives 80 grotes Flem. banco for 1 pezza of 5¾ lire f. b.
Leghorn,	86½	"	gives 86½ grotes Flemish banco for 1 pezza of 8 reals.
Lisbon,	37	"	gives 37 grotes Flemish banco for 1 old crusade.
London,	35 9	"	gives 35 shillings and 9 pence, Flem. ban. for £1 sterl.
Prague,	149	"	receives 149 rixdollars, effective, for 100 rixdolls. banco.
Spain,	84¾	"	gives 84¾ grotes Flemish banco for 1 ducat of plate.
Venice,	82	"	receives 82 soldi piccoli for 1 mark banco.
Vienna,	149	"	receives 149 rixdolls. effective, for 100 rixdolls. banco.

[*For the usances, &c. of Bills of Exchange, see Hamburgh, page* 142.]

HAMBURGH ON LONDON.

[*See page* 156.]

HAMBURGH ON AMSTERDAM.

[*See page* 167.]

HAMBURG ON AUGSBURG.

[*See page* 170.]

HAMBURGH ON BERLIN.

[*See page* 172.]

HAMBURGH ON BREMEN.

[*See page* 173.]

HAMBURGH ON COPENHAGEN.

[*See page* 179.]

HAMBURGH ON DANTZIC.

[*See page* 180.]

HAMBURGH ON FRANCE.

[*See page* 182.]

HAMBURGH ON FRANCFORT.

[*See page* 187.]

HAMBURGH ON GENEVA.

[*See page* 189.]

HAMBURGH ON GENOA.

[*See page* 192.]

LONDON ON HAMBURGH.

[*See page* 156.]

AMSTERDAM ON HAMBURGH.

[*See page* 167.]

AUGSBURG ON HAMBURGH.

[*See page* 170.]

BERLIN ON HAMBURGH.

[*See page* 172.]

BREMEN ON HAMBURGH.

[*See page* 173.]

COPENHAGEN ON HAMBURGH.

[*See page* 179.]

DANTZIC ON HAMBURGH.

[*See page* 180.]

FRANCE ON HAMBURGH.

[*See page* 182.]

FRANCFORT ON HAMBURGH.

[*See page* 187.]

GENEVA ON HAMBURGH.

[*See page* 189.]

GENOA ON HAMBURGH.

[*See page* 192.]

HAMBURGH ON LEGHORN.

Reduce 527 pezze, 8 soldi, 8 denari, into Hamburgh money; exchange at 84¾ grotes Flemish banco per pezza of 8 reals.

STATEMENT.

pezza. grotes. pezze. sold. den.

As 1 : 84¾ : : 527 8 8 to the sum sought.

Ans. 1396 marks, 14 schillings.

LEGHORN ON HAMBURGH.

Reduce 1396 marks, 14 schillings banco, into money of Leghorn; exchange at 84¾ grotes Flemish banco per pezza of 8 reals.

STATEMENT.

grotes. pezza. marks. sch.

As 84¾ : 1 : : 1396 14 to the sum sought.

Ans. 527 pezze, 8 soldi, 8 denari.

HAMBURGH ON LISBON.

Reduce 234 mill, 743 rees, into Hamburgh money; exchange at 43¾ grotes, Flemish banco per old crusado.

STATEMENT.

millrees.
4,00)2347,43

586,857 crusados.

crus. *grotes.* *crusados.*
Then as 1 : 43¾ : : 586,857 to the sum sought.
Ans. 802 marks, 5 sch. 6 pfen.

LISBON ON HAMBURGH.

Reduce 802 marks, 5 schillings, 6 pfening banco, into money of Portugal; exchange at 43¾ grotes Flemish banco per old crusado.

STATEMENT.

grotes. *crus.* *marks.* *sch.* *pfn.*
As 43¾ : 1 : : 802 5 6 to the sum sought.
Ans. 586,857 crusados.

But if the answer be required in millrees and rees, the crusados should be multiplied by 400.

HAMBURGH ON SPAIN.

Reduce 357 dollars, 4 reals, 10 maravedis of plate, into Hamburgh money; exchange at 83¾ grotes Flemish banco per ducat of exchange of 375 maravedis.

STATEMENT.

mar. *grotes.* *dolls.* *reals.* *mara.*
As 375 : 83¾ : : 357 4 10 to the sum sought.
Ans. 678 marks, 11 sch. 7 pfen.

SPAIN ON HAMBURGH.

Reduce 678 marks, 11 schillings, 7 pfenings banco, into Spanish money; exchange at 83¾ grotes Flemish banco per ducat of exchange.

STATEMENT.

grotes. *mara.* *marks.* *sch.* *pf.*
As 83¾ : 375 : : 678 11 7 to the sum sought.
Ans. 357 dolls. 4 reals, 10 mar.

HAMBURGH ON VENICE.

Reduce 21461 lire, 18 soldi, 7 denari piccoli, into Hamburgh money; exchange at 78½ grotes per ducat banco of 9 lire, 12 soldi piccoli.

STATEMENT.

duc. *soldi.* *grotes.* *lire pic.* *sol.* *den.*
As 1 or 192 : 78½ : : 21461 18 7 to the sum sought.
Ans. 5484 marks, 4 sols.

If the Venitian sum to be reduced into Hamburgh money, be in lire Italiane, it must first be reduced into lire piccole, thus:

lire Ital. *lire pic.* *lire Ital.*
As 240 : 469 : : 10982,65 to the sum sought.
Ans. 21461 lire pic. 18 sold. 7 den.

VENICE ON HAMBURGH.

Reduce 5484 marks, 4 sol lubs, into Venetian money; exchange at 78½ grotes per ducat.

STATEMENT.

grotes. *duc.* *marks.* *sols.*
As 78½ : 1 : : 5484 4 to the sum sought.
Ans. 21461 lire, 18 soldi, 7 den.

If the result be required in lire Italiane, say,

lire pic. *lire Ital.* *lire.* *sol.* *den.*
As 469 : 240 : : 21461 18 7 to the sum sought.
Ans. 10982 lire Ital. 65 cent.

HAMBURGH ON VIENNA.

Reduce 2719 rixdollars, 41 creutzers, effective of Vienna, into Hamburgh money; exchange at $149\frac{1}{10}$ rixdollars effective for 100 rixdollars banco.

STATEMENT.

	rixds. effec.		*rixds. bco.*		*rixds. effec. cr.*	
As	149,1	:	100	: :	2719 41	to

the sum sought.

Ans. 5471 marks, 12 sols lubs.

Effective money is reduced to paper money at an agio of so much per cent.

Reduce 2719 rixdollars, 41 creutzers effective, into paper money; agio $66\frac{1}{2}$ per cent.

				rxd. eff. cr.	*paper money.*
As $33\frac{1}{2}$	:	100	: :	2719 41	8117,70

Paper money is reduced to effective by the reverse analogy, thus:

As 100 : $33\frac{1}{2}$: : 8117,70 : 2719 41

VIENNA ON HAMBURGH.

Reduce 5471 marks, 12 sols lubs, into effective money; exchange at $149\frac{1}{10}$ rixdollars effective for 100 rixdollars banco.

STATEMENT.

	rixds. bco.		*rixds. effec.*		*marks.*	
As	100	:	149,1	: :	5471 75	to

the sum sought.

Ans. 2719 rixdolls. effec. 41 creut.

Effective money is reduced to paper, and the contrary, by the analogies in the annexed example.

LEGHORN.

MONIES OF EXCHANGE.

Exchanges are computed here in Pezze, Soldi, and Denari di Pezza.

---

12 Denari di Pezza = 1 Soldo di Pezza; 20 Soldi di Pezza = 1 Pezza, commonly called Pezza of 8 Reals. 12 Denari di Lira = 1 Soldo di Lira. 20 Soldi di Lira = 1 Lira. 24 Lire moneta lunga = 23 lire moneta buona. 6 Lire moneta lunga, or 5¾ Lire moneta buona = 1 Pezza of 8 Reals.

Course of Exchange from the Leghorn Quotation.		EXPLANATION.			
Amsterdam,	96	Leghorn,	receives	96	grotes Flemish for 1 pezza.
Ancona,	129¼	"	receives	129¼	bajocchi for 1 pezza of 8 reals.
Augsburg,	201½	"	receives	201½	florins current for 100 pezze.
Bologna,	94	"	receives	94	bolognini for 1 pezza.
Constantinople,	296	"	receives	296	paras for 100 pezze.
Florence,	123	"	receives	123	soldi for 1 pezza.
France,	102	"	receives	102	sous in francs for 1 pezza.
Geneva,	109	"	receives	109	ecus of 3 livres for 100 pezze.
Genoa,	123	"	receives	123	soldi fuori banco for 1 pezza.
Hamburgh,	87¼	"	receives	87¼	grotes Flemish banco for 1 do.
Lisbon,	930	"	receives	930	rees for 1 pezza.
London,	48¾	"	receives	48¾	pence sterling for 1 do.
Malta,	30½	"	receives	30½	tari for 1 do.
Milan,	134	"	receives	134	soldi correnti for 1 do.
Naples,	123¼	"	receives	123¼	ducati di reg. for 100 pez. of 8 reals.
Novi,	187	"	gives	187	pezze for 1 scudo d'oro marche.
Odessa,	510	"	receives	510	rubles for 100 pezze.
Palermo,	12 3	"	receives	12	tari 3 grani for 1 pezza.
Petersburgh,	490	"	receives	490	rubles for 100 pezze.
Rome,	128	"	receives	128	bajocchi for 1 pezza.
Smyrna,	296	"	receives	296	paras for 1 do.
Spain,	136	"	receives	136	pesos of old plate for 100 pezze.
Trieste,	200½	"	gives	200½	soldi moneta buona for 1 flor. curr't.
Turin,	90½	"	receives	90½	soldi for 1 pezza.
Venice,	10½	"	receives	10½	lire piccoli for 1 do.
Vienna,	201½	"	gives	201½	soldi moneta buona for 1 flor. curr't.

[*For the usances of Bills of Exchange, see Leghorn, page* 142.]

LEGHORN ON LONDON.

[*See page* 157.]

LEGHORN ON AMSTERDAM.

[*See page* 167.]

LEGHORN ON FRANCE.

[*See page* 183.]

LEGHORN ON GENOA.

[*See page* 192.]

LEGHORN ON HAMBURGH.

[*See page* 195.]

LONDON ON LEGHORN.

[*See page* 157.]

AMSTERDAM ON LEGHORN.

[*See page* 167.]

FRANCE ON LEGHORN.

[*See page* 183.]

GENOA ON LEGHORN.

[*See page* 192.]

HAMBURGH ON LEGHORN.

[*See page* 195.]

LEGHORN ON LISBON.

Reduce 304 millrees, 205 rees into money of Leghorn; exchange at 825 rees per pezza of 8 reals.

STATEMENT.

rees. *pez.* *millrees.*
As 825 : 1 : : 304,205 to the sum sought.

Ans. 368 pezze, 14 sol. 8 den.

If the sum were given in crusados, they should be first reduced to rees by multiplying them by 400: thus, reduce 760 crusados, 205 rees into money of Leghorn; exchange as above.

```
760    205
 400
———
304000
   205
———
304,205 rees.
```

LISBON ON LEGHORN.

Reduce 368 pezze, 14 soldi, 8 denari, into money of Portugal; exchange at 825 rees per pezza of 8 reals.

STATEMENT.

pez. *rees.* *pez.* *sol.* *den.*
As 1 : 825 : : 368 14 8 to the sum sought.

Ans. 304 mills, 205 rees.

If the answer were required in crusados, divide 304,000 by 400, and annex 205 rees which will give 760 crusados, 205 rees.

LEGHORN ON NAPLES.

Reduce 425 ducati, 2 grani di regno, into money of Leghorn; exchange at 118½ ducati di regno per 100 pezze.

STATEMENT.

ducats. *pezze.* *ducats.*
As 118½ : 100 : : 425,02 to the sum sought.

Ans. 358 pezze, 13 soldi, 4 denari.

NAPLES ON LEGHORN.

Reduce 358 pezze, 13 soldi, 4 denari, into money of Naples; exchange at 118½ ducati di regno per 100 pezze of 8 reals.

STATEMENT.

pez. *ducats.* *pez.* *sol.* *den.*
As 100 : 118½ : : 358 13 4 to the sum sought.

Ans. 425 ducats, 2 grani.

LEGHORN ON PALERMO.

Reduce 567 oncie, 10 tari, 4 grani, into money of Leghorn; exchange at 12 tari, 10 grani, per pezza of 8 reals.

STATEMENT.

tari. gra. pez. oncie. tari. gr.
As 12 10 : 1 : : 567 10 4 to the sum sought.
Ans. 1361 pezze, 12 soldi, 4 denari.

PALERMO ON LEGHORN.

Reduce 1361 pezze, 12 soldi, 4 denari, into Sicilian money; exchange at 12 tari, 10 grani, per pezza of 8 reals.

STATEMENT.

pez. tari. pezze. sol. den.
As 1 : 12½ : : 1361 12 4 to the sum sought.
Ans. 567 oncie, 10 tari, 4 grani.

LEGHORN ON SPAIN.

Reduce 1210 dollars, 5 reals, 10 maravedis of plate, into money of Leghorn; exchange at 129½ dollars of plate, per 100 pezze of 8 reals.

STATEMENT.

dolls. pezze. dolls. reals. mar.
As 129½ : 100 : : 1210 5 10 to the sum sought.
Ans. 934 pezze, 17 soldi, 6 denari.

SPAIN ON LEGHORN.

Reduce 934 pezze, 17 soldi, 6 denari, into Spanish money; exchange at 129½ dollars of plate per 100 pezze of 8 reals.

STATEMENT.

pezze. dolls. pezze. sol. den.
As 100 : 129½ : : 934 17 6 to the sum sought.
Ans. 1210 dolls. 5 reals, 10 mar.

LISBON.

MONIES OF EXCHANGE.

Exchanges are computed here in Millrees and Rees; and also in old Crusados.

1000 Rees = 1 Millree. 400 Rees = 1 old Crusado, or Crusado of exchange. 480 Rees = 1 new Crusado.

Three sorts of money are at present used in Portugal, viz. *Effective money*, that is, specie; *Paper money*, which is at a discount; and *Legal money*, consisting of half specie and half paper. The discount in Feb. 1820, was 22 per ct.

Course of exchange from the Lisbon Quotation.			EXPLANATION.
Amsterdam,	42	Lisbon	receives 42 grotes Flemish, for 1 old crusado.
France,	540	"	gives 540 rees for 3 francs.
Genoa,	746	"	gives 746 rees for 1 pezza of 5¾ lire fuori banco.
Hamburgh,	38	"	receives 38 grotes Flemish banco, for 1 old crusado.
Leghorn,	810	"	gives 810 rees for 1 pezza of 8 reals.
London,	53	"	receives 53 pence sterling for 1 millree.
Spain,	2700	"	gives 2700 rees for 1 doubloon of plate or pistole of ex.
Trieste,	450	"	gives 450 rees for 1 florin current.
Venice,	66	"	gives 66 rees for 1 lira piccola.
Vienna,	450	"	gives 450 rees for 1 Florin current.

[*For the usances, &c. of Bills of Exchange, see Lisbon, page* 142.]

Paper Money reduced to Effective.

Paper money is reduced to effective, by saying,—As 100 is to 100 less the discount, so is the sum in paper to the sum effective.

EXAMPLE.

Reduce 277 mill, 240 rees, in paper, to effective; the discount being 12½ per cent.

STATEMENT.

R. paper. R. effective. R. paper.
As 100 : 87½ : : 277,240 to the sum sought.

Ans. 242 mill, 585 rees effective.

Effective Money reduced to Paper.

Effective money is reduced to paper, by reversing the foregoing operation; that is, as 100 less the discount is to 100, so is the sum effective to the sum in paper.

EXAMPLE.

Reduce 242 mill, 585 rees effective, into paper; discount at 12½ per cent.

STATEMENT.

R. effective. R. paper. R. effective.
As 87½ : 100 : : 242,585 to the sum sought.

Ans. 277 mill, 240 rees paper.

Legal Money reduced to Effective.

As Legal money consists of half paper and half effective, it is reduced to effective by saying, as 100 is to 100 less half the discount, so is the sum in legal money to the sum in effective.

Reduce 28 mill, 640 rees, legal money, to effective; the discount on paper against effective money, being 15 pr. ct.

STATEMENT.

rees, legal.

As 100 : 92½ : : 28,640 to the sum sought.

Ans. 26 mill, 492 rees, effective.

Effective Money reduced to Legal.

Effective money is reduced to legal by reversing the foregoing operation; that is, as 100 less half the discount is to 100, so is the sum in effective to the sum in legal money.

Reduce 26 mill, 492 rees, effective, to legal money; the discount on paper against effective money being 15 pr. ct.

STATEMENT.

rees. effect.

As 92½ : 100 : : 26,492 to the sum sought.

Ans. 28 mill, 640 rees, legal.

Paper Money reduced to Legal.

In order to reduce paper money to legal, it should be first reduced to effective, as above. Then as 100 less half the discount is to 100, so is the sum in effective to the sum in legal money.

Reduce 232 mill, 650 rees, paper money, to legal; discount on paper being 20 per cent.

paper. *effective.*

As 100 : 80 : : 232,650 : 186,120

effective. *legal.*

And as 90 : 100 : : 186,120 : 206,800

Or the above question may be performed by a single statement: thus, as 90 is to 80, so is paper to legal money; that is, as 100 less half the discount is to 100 less the whole discount, so is paper to legal money.

Legal Money reduced to Paper.

Legal money is reduced to paper by reversing the foregoing statement; that is, as 100 is to 100 less half the discount, so is the sum in legal money to the sum in effective; and this is reduced to paper as above.

Reduce 206 mill, 800 rees, legal money, to paper; the discount on paper being 20 per cent.

legal. *effective.*

As 100 : 90 : : 206,800 : 186,120

effective. *paper.*

And as 80 : 100 : : 186,120 : 232,650

Or the above question may be performed by a single statement: thus, as 100 less the whole discount is to 100 less half the discount, so is the given sum in legal money to the sum in paper.

LISBON ON LONDON.

[*See page* 157.]

LISBON ON AMSTERDAM.

[*See page* 168.]

LISBON ON FRANCE.

[*See page* 183.]

LISBON ON GENOA.

[*See page* 192.]

LISBON ON HAMBURGH.

[*See page* 196.]

LISBON ON LEGHORN.

[*See page* 199.]

LONDON ON LISBON.

[*See page* 157.]

AMSTERDAM ON LISBON.

[*See page* 168.]

FRANCE ON LISBON.

[*See page* 183.]

GENOA ON LISBON.

[*See page* 192.]

HAMBURGH ON LISBON.

[*See page* 196.]

LEGHORN ON LISBON.

[*See page* 199.]

LISBON ON NAPLES.

Reduce 232 ducats, 6 grains, into Portugal money; exchange at 684 rees per ducato di regno.

STATEMENT.

duc. *rees.* *ducats.*
As 1 : 684 : : 232,06 to the sum sought.

Ans. 158 mill, 729 rees.

NAPLES ON LISBON.

Reduce 158 mill, 729 rees, into money of Naples; exchange at 684 rees per ducato di regno.

STATEMENT.

rees. *duc.* *rees.*
As 684 : 1 : : 158,729 to the sum sought.

Ans. 232 ducats, 6 grains.

LISBON ON PALERMO.

Reduce 79 oncie, 11 tari, 12½ grani, into Portugal money; exchange at 5 tari, 16 grani per old crusado.

STATEMENT.

tari. gr. *rees.* *oncie. tari. gr.*
As 5 16 : 400 : : 79 11 12½ to the sum sought.

Ans. 164 mill, 250 rees.

PALERMO ON LISBON.

Reduce 164 mill, 250 rees, into Sicilian money; exchange at 5 tari, 16 grani per old crusado.

STATEMENT.

rees. *tari. gr.* *millrees.*
As 400 : 5 16 : : 164,250 to the sum sought.

Ans. 79 oncie, 11 tari, 12½ gr.

LISBON ON SPAIN.

Reduce 140 dollars, 3 reals, 18 maravedis of plate, into Portugal money; exchange at 2312 rees per doubloon of exchange of 4 dollars of plate.

STATEMENT.

dolls. rees. dolls. reals. mar.
As 4 : 2312 : : 140 3 18 to the sum sought.

Ans. 81 mill, 175 rees.

SPAIN ON LISBON.

Reduce 81 mill, 175 rees, into Spanish money; exchange at 2312 rees per doubloon of exchange.

STATEMENT.

rees. dolls. rees.
As 2312 : 4 : : 81,175 to the sum sought.

Ans. 140 dolls. 3 reals, 18 marav.

LISBON ON VENICE.

Reduce 204 lire, 3 soldi, 7 denari piccoli, into Portugal money; exchange at 67 rees per lira piccoli.

STATEMENT.

lira. rees. lire. sol. den.
As 1 : 67 : : 204 3 7 to the sum sought.

Ans. 13 mill, 680 rees.

VENICE ON LISBON.

Reduce 13,680 rees into Venetian money; exchange at 67 rees per lira piccola.

STATEMENT.

rees. lira. rees.
As 67 : 1 : : 13,680 to the sum sought.

Ans. 204 lire, 3 soldi, 7 denari.

LEIPSIC.

The monies of exchange and calculations for Leipsic, are the same as those for Berlin, page 171.

[*For the usances, &c. of Bills of Exchange, see Leipsic, page* 143.]

MILAN—(in Italy.)

MONIES OF EXCHANGE.

Exchanges are computed here in Lire, Soldi, and Denari correnti, or Imperiali.

12 Denari = 1 Soldo. 20 Soldi = 1 Lira. 106 Soldi or Lire imperiali = 150 Soldi or Lire correnti. 106 Soldi imperiali, or 150 Soldi correnti = 1 Filippo. 117 Soldi imperiali = 1 Scudo or Crown.

Course of Exchange, from the Milan Quotation.			EXPLANATION.
Amsterdam,	56	Milan,	gives 56 soldi correnti for 1 florin.
Augsburg,	66	“	gives 66 do. do. for 1 florin current.
France,	55	“	gives 55 soldi imperiali for 3 francs.
Genoa,	86	“	gives 86 soldi correnti for 4 lire fuori banco.
Hamburgh,	49	“	gives 49 do. do. for 1 mark banco.
Leghorn,	132	“	gives 132 do. do. for 1 pezza of 8 reals.
London,	32 15	“	gives 32 lire, 15 soldi correnti, for £1 sterling.
Naples,	108	“	gives 108 soldi correnti for 1 ducato di regno.
Rome,	138	“	gives 138 do. do. for 1 scudo Romano.
Venice,	96	“	gives 96 do. do. for 1 ducat current.
Vienna,	67⅞	“	gives 67⅞ do. do for 1 florin current.

[*For the usances, &c. of Bills of Exchange, see Milan, page* 143.]

MILAN ON AMSTERDAM.

Reduce 717 florins, 5 stivers, into money of Milan; exchange at 57 soldi current per florin.

STATEMENT.

florin. soldi. florins. stiv.
As 1 : 57 : : 717 5 to the sum sought.

Ans. 2044 lire, 3 soldi, 3 den.

AMSTERDAM ON MILAN.

Reduce 2044 lire, 3 soldi, 3 denari, current of Milan, into Dutch money; exchange at 57 soldi current per florin.

STATEMENT.

soldi. flor. lire. sol. den.
As 57 : 1 : : 2044 3 3 to the sum sought.

Ans. 717 florins, 5 stivers.

MILAN ON GENOA.

Reduce 3559 lire, 9 soldi, 4 denari fuori banco, into money of Milan; exchange at 85 soldi current of Milan for 4 lire fuori banco of Genoa.

STATEMENT.

lire. soldi. lire. sol. den.
As 4 : 85 : : 3559 9 4 to the sum sought.

Ans. 3781 lire, 18 soldi, 8 denari.

GENOA ON MILAN.

Reduce 3781 lire, 18 soldi, 8 denari, of Milan, into money of Genoa; exchange at 85 soldi current of Milan for 4 lire fuori banco of Genoa.

STATEMENT.

soldi. lire. lire. soldi. den.
As 85 : 4 : : 3781 18 8 to the sum sought.

Ans. 3559 lire, 9 soldi, 4 denari.

MILAN ON HAMBURGH.

Reduce 901 marks, 15 schillings, 4 pfenings banco, into money of Milan; exchange at 48 soldi current per mark banco.

STATEMENT.

mark. soldi. marks. sch. pfen.
As 1 : 48 : : 901 15 4 to the sum sought.

Ans. 2164 lire, 14 soldi.

HAMBURGH ON MILAN.

Reduce 2164 lire, 14 soldi current, into money of Hamburgh; exchange at 48 soldi current per mark banco.

STATEMENT.

soldi. mark. lire. soldi.
As 48 : 1 : : 2164 14 to the sum sought.

Ans. 901 marks, 15 sch. 4 pfen.

MILAN ON LEGHORN.

Reduce 1233 pezze, 11 soldi, 8 denari, into money of Milan; exchange at 135 soldi of Milan per pezza of 8 reals.

STATEMENT.

pezza. soldi. pezze. soldi. den.
As 1 : 135 : : 1233 11 8 to the sum sought.

Ans. 8326 lire, 13 soldi, 9 den.

LEGHORN ON MILAN.

Reduce 8326 lire, 13 soldi, 9 denari, of Milan, into money of exchange at 135 soldi per pezza of 8 reals.

STATEMENT.

soldi. pezza. lire. soldi. den.
As 135 : 1 : : 8326 13 9 to the sum sought.

Ans. 1233 pezze, 11 soldi, 8 den.

MILAN ON LONDON.

Reduce £143 8*s.* 2*d.* sterling, into money of Milan; exchange at 31 lire, 10 soldi current per £ sterling.

STATEMENT.

	£		*lire.*	*soldi.*		£	*s.*	*d.*	
As	1	:	31	10	: :	143	8	2	to the sum sought.

Ans. 4517 lire, 7 soldi, 3 den.

LONDON ON MILAN.

Reduce 4517 lire, 7 soldi, 3 denari, current, of Milan, into sterling; exchange at 31 lire, 10 soldi per £ sterl.

STATEMENT.

	lire.	*soldi.*		£		*lire.*	*soldi.*	*den.*	
As	31	10	:	1	: :	4517	7	3	to the sum sought.

Ans. £143 8*s.* 2*d.*

MILAN ON ROME.

Reduce 2007 scudi, 31¼ bajocchi, into money of Milan; exchange at 136 soldi of Milan per scudo.

STATEMENT.

	scudo.		*soldi.*		*scudi.*	*bajoc.*	
As	1	:	136	: :	2007	31,25	to the sum sought.

Ans. 13649 lire, 14 soldi, 6 denari.

ROME ON MILAN.

Reduce 13649 lire, 14 soldi, 6 denari, into Roman money; exchange at 136 soldi of Milan per Roman scudo or crown.

STATEMENT.

	soldi.		*scudo.*		*lire.*	*soldi.*	*den.*	
As	136	:	1	: :	13649	14	6	to the sum sought.

Ans. 2007 scudi, 31¼ baj.

N. B.—Milan money, like many other places of Italy, exchanges occasionally in Italian Livres, and the estimated proportion is, that 27 Lire of Milan are worth 20,723 French Francs or Lire Italiane.

NAPLES.

MONIES OF EXCHANGE.

Exchanges are computed here in Ducats of 100 Grains.

10 Grani = 1 Carlino, and 10 Carlini = 1 Ducato di regno.

Course of Exchange from the Naples Quotation.			EXPLANATION.
Amsterdam,	51 25	Naples,	gives 51 grains 25 centimes for 1 florin.
Ancona,	125 50	"	gives 125 grains 50 centimes for 1 scudo.
Augsburg,	61 35	"	gives 61 grains 35 centimes for 1 florin current.
Florence,	19 90	"	gives 19 grains 90 centimes for 1 lira Florentine.
France,	24 25	"	gives 24 grains 25 centimes for 1 franc.
do.	433	"	receives 433 centimes for ducat.
Genoa,	19 90	"	gives 19 grains 90 centimes for 1 lira fuori banco.
do.	101⅓	"	receives 101⅓ soldi fuori banco for 1 ducat.
Hamburgh,	44 10	"	gives 44 grains 10 centimes for 1 mark banco.
Leghorn,	122 75	"	gives 122 grains 75 centimes for 1 pezza of 8 reals.
Lisbon,	53 80	"	gives 53 grains 80 centimes for 1 crusado of 400 rees.
do.	670	"	receives 670 rees for 1 ducat.
London,	604	"	gives 604 grains for £1 sterling.
Milan,	18 30	"	gives 18 grains 30 centimes for 1 lira corrente.
do.	113	"	receives 113 soldi corrente for 1 ducat.
Palermo,	120¾	"	gives 120 grains 75 centimes for 1 scudo of 12 tari, or 120¾ ducats for 100 Sicilian scudi.
Rome,	127	"	gives 127 ducats for 100 scudi romani.
Spain,	121	"	gives 121 grains for 1 dollar of plate.
Trieste,	61 25	"	gives 61 grains 25 centimes for 1 florin of Augsburg.
Venice,	22 90	"	gives 22 grains 90 centimes for 1 Italian livre.
Vienna,	61 50	"	gives 61 grains 50 centimes for 1 florin current.

[*For the usances, &c. of Bills of Exchange, see Naples, page* 143.]

NAPLES ON LONDON.
[*See page* 158.]

NAPLES ON FRANCE.
[*See page* 184.]

NAPLES ON GENOA.
[*See page* 193.]

NAPLES ON LEGHORN.
[*See page* 199.]

NAPLES ON LISBON.
[*See page* 203.]

LONDON ON NAPLES.
[*See page* 158.]

FRANCE ON NAPLES.
[*See page* 184.]

GENOA ON NAPLES.
[*See page* 193.]

LEGHORN ON NAPLES.
[*See page* 199.]

LISBON ON NAPLES.
[*See page* 203.]

NAPLES ON PALERMO.

Reduce 277 oncie, 26 tari, into money of Naples; exchange at $120\frac{3}{4}$ ducats per 100 Sicilian scudi.

STATEMENT.

tari. *ducats.* *oncie.* *tari.*
As 1200 : $120\frac{3}{4}$: : 277 26 to the sum sought.

Ans. 838 ducats, 81 grains.

PALERMO ON NAPLES.

Reduce 838 ducats, 81 grains, into Sicilian money; exchange at $120\frac{3}{4}$ ducats, per 100 scudi, of 12 tari.

STATEMENT.

ducats. *tari.* *ducats.* *gr.*
As $120\frac{3}{4}$: 1200 : : 838 81 to the sum sought.

Ans. 277 oncie, 26 tari.

NAPLES ON SPAIN.

Reduce 3368 dollars, 6 reals, 16 maravedis of plate into money of Naples; exchange at 312 maravedis of plate, per ducato di regno.

STATEMENT.

mar. *ducat.* *dolls.* *reals.* *mar.*
As 312 : 1 : : 3368 6 16 to the sum sought.

Ans. 2936 ducats, 91 grains.

SPAIN ON NAPLES.

Reduce 2936 ducats, 91 grains, into Spanish money; exchange at 312 maravedis of plate, per ducato di regno.

STATEMENT.

duc. *mar.* *duc.* *gr.*
As 1 : 312 : : 2936 91 to the sum sought.

Ans. 3368 dolls. 6 rea. 16 mar.

PALERMO.

MONIES OF EXCHANGE.

Exchanges are computed here in Oncie, Tari, and Grani; and also in Scudi, Tari, and Grani.

---

20 Grani or Grains = 1 Tari or Tarin. 30 Tari = 1 Oncia. 12 Tari = 1 Scudo or Sicilian crown. 5 Scudi = 2 Oncie.

Course of Exchange from the Palermo Quotation.			EXPLANATIONS.
Amsterdam,	5½	Palermo,	gives 5½ tari for 1 florin.
France,	47½	"	gives 47½ grani for 1 franc.
Genoa,	39½	"	gives 39½ grani for 1 lira fuori banco.
Hamburgh,	4 6	"	gives 4 tari 6 grani for 1 mark banco.
Leghorn,	12½	"	gives 12½ tari for 1 pezza.
Lisbon,	6¼	"	gives 6¼ tari for 1 old crusado.
London,	60	"	gives 60 tari for £1 sterling.
Naples,	121	"	receives 121 ducati for 100 Sicilian crowns.
Rome,	12½	"	gives 12½ tari for 1 Roman scudo.
Spain,	8¾	"	gives 8¾ tari for 1 peso of plate.
Trieste,	5 27	"	gives 5 tari 27 grani for 1 florin current.

[*For the usances, &c. of Bills of Exchange, see Sicily, page* 145.]

PALERMO ON LONDON. [*See page* 158.]	LONDON ON PALERMO. [*See page* 158.]
PALERMO ON GENOA. [*See page* 193.]	GENOA ON PALERMO. [*See page* 193.]
PALERMO ON LEGHORN. [*See page* 200.]	LEGHORN ON PALERMO. [*See page* 200.]
PALERMO ON LISBON. [*See page* 203.]	LISBON ON PALERMO. [*See page* 203.]
PALERMO ON NAPLES. [*See page* 209.]	NAPLES ON PALERMO. [*See page* 209.]

PALERMO ON AMSTERDAM.

Reduce 2564 florins, 10 stivers, into Sicilian money; exchange at 5½ tari per florin.

STATEMENT.

	florin.		*tari.*		*florins.*	*stivers.*	
As	1	:	5½	: :	2564	10	to the sum sought.

Ans. 470 oncie, 4 tari, 15 grani.

AMSTERDAM ON PALERMO.

Reduce 470 oncie, 4 tari, 15 grani, into Dutch money; exchange at 5½ tari per florin.

STATEMENT.

	tari.		*florin.*		*oncie.*	*tari.*	*grani.*	
As	5½	:	1	: :	470	4	15	to the sum sought.

Ans. 2564 florins, 10 stivers.

PALERMO ON SPAIN.

Reduce 4646 dollars, 5 reals, 14 maravedis of plate, into Sicilian money; exchange at 8½ tari per dollar of plate.

STATEMENT.

	doll.		*tari.*		*dolls.*	*reals.*	*mara.*	
As	1	:	8½	: :	4646	5	14	to the sum sought.

Ans. 1316 oncie, 16 tari, 15 grani.

SPAIN ON PALERMO.

Reduce 1316 oncie, 16 tari, 15 grani, into Spanish money; exchange at 8½ tari per dollar of plate.

STATEMENT.

	tari.		*doll.*		*oncie.*	*tari.*	*gra.*	
As	8½	:	1	: :	1316	16	15	to the sum sought.

Ans. 4646 dolls. 5 reals, 14 mar.

PETERSBURGH.

MONIES OF EXCHANGE.

Exchanges are computed here in Rubles and Copecks.

---

10 Copecks = 1 Grieve or Grievener. 10 Grieves or 100 Copecks = 1 Ruble.

Course of Exchange from the Petersburgh Quotation.			EXPLANATION.
Amsterdam,	$9\frac{31}{32}$	Petersburgh,	receives $9\frac{31}{32}$ stivers for 1 ruble.
Constantinople,	73	"	gives 73 copecks for 1 piastre.
France,	104	"	receives 104 centimes for 1 ruble.
Hamburgh,	$8\frac{31}{32}$	"	receives $8\frac{31}{32}$ schill. lubs banco for 1 ruble.
Leipsic,	17	"	receives 17 groschen for 1 ruble.
London,	$10\frac{1}{32}$	"	receives $10\frac{1}{32}$ pence sterling for 1 ruble.
Vienna,	125	"	receives 125 creutzers for 1 ruble.

[*For the usances, &c. of Bills of Exchange, see Russia, page* 145.]

PETERSBURGH ON AMSTERDAM.

Reduce 2655 florins, 13 stivers, $2\frac{1}{2}$ pennings, into Russian money; exchange at $9\frac{5}{8}$ stivers per ruble.

STATEMENT.

	stivers.		*ruble.*		*florins.*	*sti.*	*pen.*	
As	$9\frac{5}{8}$	:	1	: :	2655	13	2,5	to the sum sought.

Ans. 5518 rubles, 25 copecks.

AMSTERDAM ON PETERSBURGH.

Reduce 5518 rubles, 25 copecks, into Dutch money; exchange at $9\frac{5}{8}$ stivers per ruble.

STATEMENT.

	ruble.		*stivers.*		*rubles.*	*copecks.*	
As	1	:	$9\frac{5}{8}$	: :	5518	25	to the sum sought.

Ans. 2655 florins, 13 stivers, $2\frac{1}{2}$ pen.

PETERSBURGH ON FRANCE.

Reduce 7077 francs, 67 centimes, into Russian money; exchange at 1 franc, 10 centimes per ruble.

STATEMENT.

	franc.	*cent.*		*ruble.*		*franc.*	*cent.*	
As	1	10	:	1	: :	7077	67	to the sum sought.

Ans. 6434 rubles, 25 copecks.

FRANCE ON PETERSBURGH.

Reduce 6434 rubles, 25 copecks, into French money; exchange at 1 franc, 10 centimes per ruble.

STATEMENT.

	ruble.		*franc.*	*cent.*		*rubles.*	*copecks.*	
As	1	:	1	10	: :	6434	25	to the sum sought.

Ans. 7077 francs, 67 centimes.

PETERSBURGH ON LONDON.

Reduce £131 1s. 1d. sterling, into Russian money; exchange at $9\frac{1}{8}$d. per ruble.

STATEMENT.

	d.		*ruble.*		*£*	*s.*	*d.*	
As	$9\frac{1}{8}$	:	1	: :	131	1	1	to the sum sought.

Ans. 3466 rubles, 90 copecks.

LONDON ON PETERSBURGH.

Reduce 3446 rubles, 90 copecks, into sterling; exchange at $9\frac{1}{8}$d. per ruble.

STATEMENT.

	ruble.		*d.*		*rubles.*	*copecks.*	
As	1	:	$9\frac{1}{8}$	: :	3446	90	to the sum sought.

Ans. £131 1s. 1d.

ROME.

MONIES OF EXCHANGE.

Exchanges are computed in Scudi moneta and Bajocchi; or in Scudi di Stampa, Soldi, and Denari d'oro. Quattrini and Mezzi Quattrini are also sometimes reckoned.

2 Mezzi Quattrini = 1 Quattrino. 5 Quattrini = 1 Bajocco. 10 Bajocchi = 1 Paolo. 10 Paoli or 100 Bajocchi = 1 Scudo Moneta or Roman Crown. 1523 Mezzi Quattrini or $152\frac{3}{10}$ Bajocchi = 1 Scudo di Stampa d'oro or gold Crown. 12 Denari d'oro = 1 Soldo d'oro. 20 Soldi d'oro = 1 Scudo di Stampa d'oro.

Course of Exchange, from the Roman Quotation.			EXPLANATION.
Amsterdam,	44	Rome,	gives 44 bajocchi for 1 florin.
Ancona,	98	"	gives 98 scudi Romani for 100 scudi of Ancona.
Bologna,	102	"	gives 102 scudi Romani for 100 scudi of Bologna.
Florence,	104¼	"	gives 104¼ scudi di stampa d'oro for 100 scu. d'oro.
France,	105	"	receives 105 sous in francs for 1 scudo.
Genoa,	128	"	receives 128 soldi fuori banco for 1 scudo.
Leghorn,	96	"	gives 96 bajocchi for 1 pezza of 8 reals.
London,	47	"	receives 47 pence sterling for 1 scudo.
Milan,	139¾	"	gives 139¾ scudi Romani for 100 scudi imperiali.
Naples,	127½	"	receives 127½ ducati di regno for 100 scudi Romani.
Venice,	557	"	receives 557 centimes for 1 scudo.

[*For usances, &c. of Bills of Exchange, see Rome, page* 144.]

ROME ON FRANCE.

Reduce 26813 francs, 54 centimes, into Roman money; exchange at 5 francs, 20 centimes per scudo moneta.

EXAMPLE.

francs. cen. *scudo.* *francs.* *cen.*
As 5 20 : 1 : : 26813 54 to the sum sought.

Ans. 5156 scudi, 45 bajocchi.

FRANCE ON ROME.

Reduce 5156 scudi, 45 bajocchi, into French money; exchange at 5 francs, 20 centimes per scudo moneta. The operation is best performed decimally, thus:

EXAMPLE.

scudo. *francs.* *scudi.*
As 1 : 5,20 : : 5156,45 to the sum sought.

Ans. 26813 francs, 54 centimes.

ROME ON GENOA.

Reduce 4017 lire, 3 soldi, 9 denari fuori banco, into Roman money; exchange at 125 soldi fuori banco per scudo moneta.

STATEMENT.

	soldi.		*scudo.*		*lire.*	*sol.*	*den.*	
As	125	:	1	: :	4017	3	9	to

the sum sought.

Ans. 642 scudi, 75 baj.

GENOA ON ROME.

Reduce 642 scudi, 75 bajocchi into money of Genoa; exchange at 125 soldi fuori banco per scudo moneta.

STATEMENT.

	scudo.		*soldi.*		*scudi.*	*baj.*	
As	1	:	125	: :	642	75	to the

sum sought.

Ans. 4017 lire, 3 soldi, 9 denari.

ROME ON LONDON.

Reduce £937 11s. 5d. sterling, into Roman money; exchange at 52d. sterling per scudo.

STATEMENT.

	d.		*scudo.*		*£*	*s.*	*d.*	
As	52	:	1	: :	937	11	5	to the

sum sought.

Ans. 4327 scudi, 25 baj.

LONDON ON ROME.

Reduce 4327 scudi, 25 bajocchi, into sterling; exchange at 52d. sterling per scudo.

STATEMENT.

	scudo.		*d.*		*scudi.*	*baj.*	
As	1	:	52	: :	4327	25	to the

sum sought.

Ans. £937 11s. 5d.

SPAIN.

MONIES OF EXCHANGE.

Exchanges are generally computed here in denominations of Plate, which is always understood to be *Old Plate*, if *New Plate* be not mentioned.

There are three principal denominations of these imaginary monies in which exchanges are generally transacted, viz. Dollars, Doubloons, and Ducats, and they are divided into Reals and Maravedis of Plate, and sometimes converted into Vellon and other denominations.

The Dollar of Exchange, also called *Peso*, or *Piastre de Cambio*, or *de Plata*, is divided into 8 Reals of 34 Maravedis of Plate each, and sometimes into 16 Quartos.

The *Doubloon de Plata*, or Pistole of Exchange, is four times the Dollar, and therefore contains 32 Reals, or 1088 Maravedis of Plate. The Ducat of Plate, also called *Ducato de Cambio*, contains 11 Reals, 1 Maravedi, or 375 Maravedis of Plate.

At Alicant, Valencia, and Barcelona, exchanges are transacted in Libras of 20 Sueldos, or 240 Dineros.

The Libra of Alicant and Valencia is the Dollar of Plate. This is sometimes divided into 10 Reals of New Plate, which are, of course, equal to 8 Reals of Old Plate.

The Libra of Barcelona, commonly called *Libra Catalan*, is worth $5\frac{5}{7}$ Reals of Plate; hence 7 of those Libras equal 5 Dollars of Plate; and, therefore, 28 Sueldos Catalan, equal 1 Dollar. The Hard Dollar of 20 Reals Vellon, is occasionally used in Exchanges, and is also divided into 12 Reals, each Real of 16 Quartos. The current Dollar, which is an imaginary money, valued at two thirds of the Hard Dollar, is divided into 8 Reals, and the Real into 16 Quartos. The two latter are the principal monies of Exchange used at Gibraltar.

Course of Exchange from the Cadiz Quotation.			EXPLANATION.
Amsterdam,	96	Cadiz,	receives 96 grotes Flemish for 1 ducat of plate.
France,	14	"	receives 14 francs for 1 doubloon of plate.
Genoa,	125	"	gives 125 dollars of plate for 100 pezze of $5\frac{3}{4}$ lire.
Hamburgh,	88	"	receives 88 grotes Flemish banco for 1 ducat of ex.
Leghorn,	123	"	gives 123 dollars of plate for 100 pezze of 8 reals.
Lisbon,	2700	"	receives 2700 rees for 1 doubloon of plate.
London,	$35\frac{3}{8}$	"	receives $35\frac{3}{8}$ pence sterling for 1 dollar of plate.
Naples,	290	"	gives 290 maravedis of plate for 1 ducato di regno.

[*For the usances, &c. of Bills of Exchange, see Spain, page* 144.]

SPAIN ON AMSTERDAM.

[*See page* 168.]

SPAIN ON FRANCE.

[*See page* 184.]

SPAIN ON GENEVA.

[*See page* 190.]

AMSTERDAM ON SPAIN.

[*See page* 168.]

FRANCE ON SPAIN.

[*See page* 184.]

GENEVA ON SPAIN.

[*See page* 190.]

SPAIN ON GENOA.

[*See page* 193.]

SPAIN ON HAMBURGH.

[*See page* 196.]

SPAIN ON LEGHORN.

[*See page* 200.]

SPAIN ON LISBON.

[*See page* 204.]

SPAIN ON LONDON.

[*See page* 158.]

SPAIN ON NAPLES.

[*See page* 209.]

SPAIN ON PALERMO.

[*See page* 211.]

GENOA ON SPAIN.

[*See page* 193.]

HAMBURGH ON SPAIN.

[*See page* 196.]

LEGHORN ON SPAIN.

[*See page* 200.]

LISBON ON SPAIN.

[*See page* 204.]

LONDON ON SPAIN.

[*See page* 158.]

NAPLES ON SPAIN.

[*See page* 209.]

PALERMO ON SPAIN.

[*See page* 211.]

The above are the principal places with which Spain exchanges, and, therefore, any further examples would be unnecessary if Bills were always drawn in Plate, the money in which the Courses of Exchange are quoted. But as they are sometimes drawn in other denominations, such as Reals Vellon, and Libras of Alicant, Valencia, and Barcelona, it remains to show how these several currencies are converted into Plate.

Plate is reduced into Vellon by multiplying by 32, and dividing by 17, and *vice versa:* but when bills are drawn in Hard Dollars, Reals and Maravedis Vellon, which is sometimes done in Bilboa and the adjacent places, the operation becomes more complex, as in the following examples.

BILBOA ON LONDON.

Reduce £800 4s. 8d. into hard dollars, reals and maravedis; exchange at 52½d. per hard dollar.

LONDON ON BILBOA.

Reduce 2854 hard dollars, 8 reals, 11 maravedis vellon into sterling; exchange at 52½d. per hard dollar.

34 Maravedis = 1 Real, 20 Reals = 1 Hard Dollar.

STATEMENT.

```
   d.  hard doll.  £    s.  d.
As 52½  :  1  : : 800   4  7¾
    4      8       20
   ---    --     -----
  210      8     16004
          34        12
          ---   ------
          272   192056
           32        4
         ----   ------
         8704   768224
                  8704
         --------------
        210)6686621696
         --------------
          17)31841055
          -----------
           34)1873003
          ------------
          2,0)5508,8 11
          ---------------
            2754 h. dls. 8 r. 11 m.
```

STATEMENT.

```
 h. doll.  d.     h. dolls. reals. mar.
As 1  :  52½  : : 2754 . 8   11
         8           20
        --         -----
         8         55088
        34            34
       ---       -------
       272       1873003
        32            17
      ----      --------
      8704      31841051
                     52½
           ------------12)
8704)1671655177½(192055¾
     8704        --------
     -----    2,0)1600,4 7
     80125 &c.  ----------
                £800 4s. 7¾d.
```

Effective Money reduced to Paper.

Bills, when they are not made payable in effective, are paid in paper money, called *Vales Reales*, which bears a considerable discount.

Effective money is therefore reduced to paper, by saying, as 100 *minus* or less the discount is to 100, so is the effective sum to the sum in paper.

EXAMPLE.

Reduce 743 reals, 10 maravedis, effective, to paper money; discount at 48 per cent.

reals. mar.
As 52 : 100 : : 743 10 to the sum sought.
Ans. 1429 reals, 14 maravedis.

Paper Money reduced to Effective.

Paper money is reduced to effective by reversing the foregoing operation; that is, as 100 is to 100 less the discount, so is the sum in paper to the effective sum.

EXAMPLE.

Reduce 1429 reals, 14 maravedis, in paper, into effective; discount at 48 per cent.

reals. mar.
As 100 : 52 : : 1429 14 to the sum sought.
Ans. 743 reals, 10 maravedis.

Libras of Alicant reduced to Reals of Plate.

The libras of Alicant and Valencia, being dollars of plate, are reduced to reals by multiplying by 8. The sueldos should be multiplied by 8 and divided by 20, because 20 sueldos equal 8 reals.

EXAMPLE.

Reduce 314 libras, 11 sueldos, 3 dineros of Alicant, into reals of plate.

libras.	*sueldos.*	*din.*
314	11	3
8	8	
2512 reals.	2,0)9,1	
4 reals, 17 mar.	4½ reals.	
Ans. 2516 reals, 17 mar.		

Reals of Plate reduced to Libras of Alicant.

Reals of plate are reduced to Libras of Alicant and Valencia, by dividing them by 8. The remainder, if there is any, should be multiplied by 20, and divided by 8, in order to reduce it to sueldos.

EXAMPLE.

Reduce 2516 reals, 17 maravedis, into libras of Alicant.

reals.
8)2516½

314 libras. 4½ reals.
20

8)90

11 3
Ans. 314 libras, 11 sueldos, 3 din.

Libras of Barcelona reduced to Reals of Plate.

The libras catalan are reduced to reals of plate, by saying, as 7 libras is to 40 reals, so is the given numbers of libras to the number of reals sought.

Reduce 463 libras, 6 sueldos, 3 dineros catalan, into reals of plate.

STATEMENT.

libras. reals. libras. suel. din.
As 7 : 40 : : 463 6 3 to the sum sought.
Ans. 2647½ reals of plate.

Reals of Plate reduced to Libras of Barcelona.

Reals of plate are reduced to libras catalan, by reversing the foregoing operation; that is, as 40 reals is to 7 libras, so is the given number of reals to the number of libras sought.

Reduce 2647 reals, 17 maravedis of plate, to libras catalan.

STATEMENT.

reals. libras. reals. mar.
As 40 : 7 : : 2647 17 to the sum sought.
Ans. 463 libras, 6 sueldi, 3 din.

STOCKHOLM.

MONIES OF EXCHANGE.

Exchanges are computed in Rixdollars specie, Skillings, and Fenings.

---

12 Fenings or Oers = 1 Skilling. 48 Skillings = 1 Rixdollar specie.

Course of Exchange, from the Stockholm Quotation.			EXPLANATION.
Amsterdam,	128	Stockholm	gives 128 skillings for 1 rixdollar.
Copenhagen,	86	"	gives 86 skillings for 1 rixdollar.
Dantzic,	24	"	gives 24 skillings for 1 florin.
France,	25	"	gives 25 skillings for 1 franc.
Hamburgh,	135	"	gives 135 skillings for 1 rixdollar banco.
Leghorn,	114	"	gives 114 skillings for 1 pezza.
Lisbon,	51	"	gives 51 skillings for 1 old crusado.
London,	12 10	"	gives 12 rixdollars, 10 skillings for £1 sterling.
Petersburgh,	25¼	"	gives 25¼ skillings for 1 ruble.
Spain,	110	"	gives 110 skillings for 1 ducat of plate.

[*For usances, &c. of Bills of Exchange, see Sweden, page* 145.]

STOCKHOLM ON AMSTERDAM.

Reduce 10845 florins, 12 stivers, 8 pennings, into Swedish money; exchange at 44 Swedish skillings per rixdollar of 2½ florins.

STATEMENT.

	florins.		*skill.*		*florins.*	*stiv.*	*pen.*	
As	2½	:	44	: :	10845	12	8	to

the sum sought.

Ans. 3976 rixdollars, 35 skill.

AMSTERDAM ON STOCKHOLM.

Reduce 3976 rixdollars, 35 skillings Swedish, into Dutch banco; exchange at 44 skillings per rixdollar banco.

STATEMENT.

	skill.		*rixd. or*	*flor.*		*rixds.*	*sk.*	
As	44	:	1	2½	: :	3976	35	to

the sum sought.

Ans. 10845 flor. 12 stiv. 8 pen.

STOCKHOLM ON HAMBURGH.

Reduce 1544 marks banco into Swedish money; exchange at 46½ skillings Swedish per rixdollar banco.

STATEMENT.

marks. *skills.* *marks.*
As 3 : 46½ : : 1544 to the sum sought.

Ans. 498 rixdollars, 28 skill.

HAMBURGH ON STOCKHOLM.

Reduce 498 rixdollars, 28 skillings Swedish, into Hamburgh money; exchange at 46½ skillings per rixdollar of 3 marks banco.

STATEMENT.

skill. *marks.* *rixd.* *skill.*
As 46½ : 3 : : 498 28 to the sum sought.

Ans. 1544 marks banco.

STOCKHOLM ON LONDON.

Reduce £2009 3s. 4d. sterling, into Swedish money; exchange at 4 rixdollars, 30 skillings per £ sterling.

STATEMENT.

£ *rixd.* *skill* *£* *s.* *d.*
As 1 : 4 30 : : 2009 3 4 to the sum sought.

Ans. 9292 rixdolls. 19 skil.

LONDON ON STOCKHOLM.

Reduce 9292 rixdollars, 19 skillings Swedish, into sterling; exchange at 4 rixdollars, 30 skillings per £ sterling.

STATEMENT.

rixds. *sk.* *£* *rixds.* *skil.*
As 4 30 : 1 : : 9292 19 to the sum sought.

Ans. £2009 3s. 4d.

TURIN—(IN PIEDMONT.)

MONIES OF EXCHANGE.

Exchanges are computed here in Lire, Soldi, and Denari.

12 Denari = 1 Soldo. 20 Soldi = 1 Lira.

Course of Exchange, from the Turin Quotation.			EXPLANATION.
Amsterdam,	35	Turin,	gives 35 soldi for 1 florin.
Augsburg,	43¼	“	gives 43¼ soldi for 1 florin current.
France,	20 1	“	gives 20 lire, 1 soldo for 24 francs.
Geneva,	82	“	gives 82 soldi for 3 livres current.
Genoa,	9 10	“	gives 9 lire, 10 soldi for 13 lire, 10 soldi fuori banco.
Hamburgh,	31½	“	gives 31½ soldi for 1 mark banco.
Leghorn,	87½	“	gives 87½ soldi for 1 pezza of 8 reals.
London,	21 5	“	gives 21 lire, 5 soldi for £1 sterling.
Milan,	97½	“	gives 97½ soldi for 1 filippo, or 7½ lire correnti.
Naples,	74	“	gives 74 soldi for 1 ducat.
Rome,	87	“	gives 87 soldi for 1 scudo Romano.
Spain,	63	“	gives 63 soldi for 1 dollar of exchange.
Venice,	94	“	gives 94 soldi for 1 ducat current.
Vienna,	43¼	“	gives 43¼ soldi for 1 florin current.

[*For the usances, &c. of Bills of Exchange, see Turin, page* 146.]

TURIN ON FRANCE.

Reduce 1728 francs, 60 centimes, into money of Turin; exchange at 20 lire, 10 soldi for 24 francs.

STATEMENT.

francs. lire. francs.
As 24 : 20½ : : 1728,60 to the sum sought.
Ans. 1476 lire, 10 soldi, 3 denari.

FRANCE ON TURIN.

Reduce 1476 lire, 10 soldi, 3 denari of Turin, into French money; exchange at 20 lire, 10 soldi for 24 francs.

STATEMENT.

lire. soldi. francs. lire. soldi. den.
As 20 10 : 24 : : 1476 10 3 to the sum sought.
Ans. 1728 francs, 60 centimes.

TURIN ON GENOA.

Reduce 14239 lire, 16 soldi fuori banco, into money of Turin; exchange at 9 lire, 5 soldi of Turin per sequin of 13½ lire fuori banco.

STATEMENT.

lire. soldi. lire. soldi. lire. soldi.
As 13 10 : 9 5 : : 14239 16 to the sum sought.

Ans. 9756 lire, 18 soldi.

GENOA ON TURIN.

Reduce 9756 lire, 18 soldi of Turin, into money of Genoa; exchange at 9 lire, 5 soldi per sequin of 13½ lire fuori banco.

STATEMENT.

lire. soldi. lire. soldi. lire. soldi.
As 9 5 : 13 10 : : 9756 18 to the sum sought.

Ans. 14239 lire, 16 soldi.

TURIN ON LONDON.

Reduce £406 16s. 2d. sterling, into money of Turin; exchange at 19 lire, 10 soldi per £ sterling.

STATEMENT.

£ lire. soldi. £ s. d.
As 1 : 19 10 : : 406 16 2 to the sum sought.

Ans. 7932 lire, 15 soldi, 3 den.

LONDON ON TURIN.

Reduce 7932 lire, 15 soldi, 3 denari, into sterling; exchange at 19 lire, 10 soldi per £ sterling.

STATEMENT.

lire. soldi. £ lire. soldi. den.
As 19 10 : 1 : : 7932 15 3 to the sum sought.

Ans. £406 16s. 2d.

VENICE.

MONIES OF EXCHANGE.

Exchanges have been computed here in Lire, Soldi, and Denari, Moneta Piccola, and also in Ducats; but they are now generally computed in Centimes, of Italian Livres, which are similar to those of France.

---

12 Denari = 1 Soldo. 20 Soldi = 1 Lira. 6 Lire 4 Soldi piccoli = 1 Dacat current, or of account. 8 Lire piccoli = 1 Ducat effective. 100 Centimes = 1 Lire Italiana. 40,000 Lire piccoli = 30,467 Lire Italiane.

Course of Exchange, from the Venice Quotation.			EXPLANATION.
Amsterdam,	224	Venice,	gives 224 centimes for 1 florin.
Ancona,	540	“	gives 540 centimes for 1 scudo.
Augsburg,	260	“	gives 260 centimes for 1 florin current.
Constantinople,	83	“	gives 83 centimes for 1 piastre.
France,	105	“	gives 105 centimes for 1 franc.
Genoa,	86	“	gives 86 centimes for 1 lira fuori banco.
Hamburgh,	196	“	gives 196 centimes for 1 mark banco.
Leghorn,	533	“	gives 533 centimes for 1 pezza.
Lisbon,	66	“	receives 66 rees for 1 lira.
London,	26 30	“	gives 26,30 centimes for £1 sterling.
Milan,	102	“	gives 102 centimes for 100 centimes.
Naples,	433	“	gives 433 centimes for 1 ducato di regno.
Palermo,	13	“	gives 13 lire for 1 oncia.
Rome,	550	“	gives 550 centimes for 1 scudo Romano.
Vienna,	261	“	gives 261 centimes for 1 florin effective.

[*For the usances, &c. of Bills of Exchange, see Venice, page* 148.]

VENICE ON LONDON.

[*See page* 159.]

VENICE ON CONSTANTINOPLE.

[*See page* 177.]

VENICE ON GENOA.

[*See page* 193.]

VENICE ON HAMBURGH.

[*See page* 196.]

VENICE ON LISBON.

[*See page* 204.]

LONDON ON VENICE.

[*See page* 159.]

CONSTANTINOPLE ON VENICE.

[*See page* 177.]

GENOA ON VENICE.

[*See page* 193.]

HAMBURGH ON VENICE.

[*See page* 196.]

LISBON ON VENICE.

[*See page* 204.]

VENICE ON FRANCE.

Reduce 3372 francs, 30 centimes, into Venetian money; exchange at 2 lire, 5 soldi piccoli per franc.

STATEMENT.

franc. lire. soldi. francs. cen.
As 1 : 2 5 : : 3372 30 to the sum sought.

Ans. 7587 lire, 13 soldi, 6 denari.

FRANCE ON VENICE.

Reduce 7587 lire, 13 soldi, 6 denari piccoli, into French money; exchange at 2 lire, 5 soldi piccoli per franc.

STATEMENT.

lire. soldi. franc. lire. soldi. den.
As 2 5 : 1 : : 7587 13 6 to the sum sought.

Ans. 3372 francs, 30 centimes.

The above is the mode of exchange formerly used, but as it is in a great measure discontinued, any further examples are deemed unnecessary.

VIENNA.

MONIES OF EXCHANGE.

Exchanges are computed in Florins and Creutzers, or in Rixdollars and Creutzers.

4 Pfenings = 1 Creutzer. 60 Creutzers = 1 Florin or Gulden. 1½ Florins, or 90 Creutzers = 1 Rixdollar of account. 2 Florins, or 120 Creutzers = 1 Rixdollar specie.

Course of Exchange from the Vienna Quotation.		EXPLANATION.
Amsterdam,	140 Vienna,	gives 140 rixdollars current for 100 rixdollars.
Augsburgh,	100 “	gives 100 rixdollars current for 100 rixdols. cur.
Constantinople,	112 “	gives 112 florins for 100 piastres.
France,	119 “	receives 119 florins for 100 ecus of 3 francs.
Genoa,	30½ “	receives 30½ soldi fuori banco for 1 florin current.
Hamburgh,	148½ “	gives 148½ rixdolls. current, for 100 rixdols. banco.
Leghorn,	57½ “	receives 57½ soldi moneta buona for 1 florin.
London,	9 52 “	gives 9 florins, 52 Creutzers for £1 sterling.
Milan,	67¼ “	receives 67¼ soldi correnti for 1 florin current.
Prague,	99½ “	gives 99½ florins for 100 florins current.
Smyrna,	112 “	gives 112 florins for 100 piastres.
Venice,	184 “	gives 184 florins for 500 lire piccole.

[*For the usances, &c. of Bills of Exchange, see Vienna, page* 148.]

VIENNA ON CONSTANTINOPLE.

[*See page* 177.]

VIENNA ON FRANCE.

[*See page* 185.]

VIENNA ON HAMBURGH.

[*See page* 197.]

VIENNA ON LONDON.

[*See page* 159.]

CONSTANTINOPLE ON VIENNA.

[*See page* 177.]

FRANCE ON VIENNA.

[*See page* 185.]

HAMBURGH ON VIENNA.

[*See page* 197.]

LONDON ON VIENNA.

[*See page* 159.]

VIENNA ON LEGHORN.	LEGHORN ON VIENNA.
Reduce 2233 pezze into Austrian money; exchange at 42 soldi di lira moneta buona, per Austrian florin.	Reduce 6114 florins, 10 creutzers of Austrian into money of Leghorn; exchange at 42 soldi di lira moneta buona, per florin.

[5¾ Lire moneta buona, = 1 Pezza of 8 Reals.]

STATEMENT.	STATEMENT.
pezze. As 4 : 23 : : 2233 to the sum sought. Ans. 12839 lire, 15 soldi di lira.	*florin. soldi. florins. cr.* As 1 : 42 : : 6114 10 to the sum sought. Ans. 12839 Lire, 15 soldi.
soldi. florin. lire. soldi. Then as 42 : 1 : : 12839 15 to the sum required. Ans. 6114 florins, 10 creutzers.	*lire. soldi di l.* Then as 23 : 4 : : 12839 15 to the sum required. Ans. 2233 pezze.

WEST INDIES.

Under this article are comprehended all the Islands lying in the Caribbean Sea, between North and South America; and also a few of the neighboring settlements on the Continent.

These places, though liable to frequent political changes, still, for the most part, retain the weights, measures, and denominations of money of the European nations, by which they were originally colonized; and they are accordingly classed in the following Table, without any reference to the country or power to which they may at any time eventually belong.

The Larger Islands, or Greater Antilles, are,

JAMAICA,	English.	PORTO RICO,	Spanish.
CUBA,	Spanish.	ST. DOMINGO,	French and Spanish.

The smaller Islands, or lesser Antilles, also called the Caribbee Islands, are divided into Leeward and Windward Islands.

The Leeward Islands are,

TORTOLA,	English,	GUADALOUPE	French.
THE SAINTS,		MARIGALANTE,	
BARBUDA,		ST. EUSTATIA,	Dutch.
ANTIGUA,		ST. MARTIN,	
ST. KITTS,		ST. THOMAS,	Danish.
NEVIS,		SANTA CRUZ,	
MONTSERRAT,		ST. JOHN,	
DOMINICA,		ST. BARTHOLOMEW,	Swedish.

The Windward Islands are,

BARBADOES, ST. VINCENT, GRENADA,	English.	TOBAGO,	English.
		MARTINICO, ST. LUCIA,	French.

Islands on the Coast of Terra Firma.

TRINIDAD, MARGARITA,	Spanish.	CURACAO, BONAIRE,	Dutch.

Settlements on the Continent of South America.

DEMERARA, BERBICE,	Dutch.	ESSEQUIBO, SURINAM,	Dutch.

ENGLISH ISLANDS.

Accounts are kept in all the English islands in pounds, shillings, and pence currency. The pound is divided into 20 shillings, and the shillings into 12 pence.

West India currency is an imaginary money; it varies in different islands from 40 to 100 per cent. Thus, in some colonies, £140 currency, and in others, £200 currency, must be reckoned for £100 sterling.

The following are the currencies and corresponding values of the Dollar in the different English Islands.

	currency.		*sterling.*		*currency.*
Jamaica,	£140	for	£100	Dollar	6s. 8d.
Barbadoes,	135	for	100	"	6s. 3d.
Windward Islands, (except Barbadoes,)	175	for	100	"	8s. 3d.
Leward Islands,	200	for	100	"	9s. 0d.

Here it should be observed, that the above proportions between currency and sterling, are seldom acted upon, except in the valuation of silver coins. Even dollars are sometimes at a premium; and gold coins pass for about 10 per cent. above currency in some of the islands.

The course of exchange, likewise, is generally much higher than currency.

The following are, the current coins and their nominal values in the principal English Islands.

JAMAICA.

As the currency of Jamaica is £140, its proportion to sterling is as 7 to 5. Hence, £1 sterling = 28s. currency; and £1 currency = 14s. $3\frac{3}{7}$d. sterling.

The following are the gold coins current here, with their weight and legal value in currency.

	dwt.	*gr. troy.*	*value in currency.*		
Spanish Doubloon,	17	8	£5	0	0
Two Pistole Piece,	8	16	2	10	0
Pistole,	4	8	1	5	0
Half Pistole,	2	4	0	12	6

		dwt.	*gr. troy.*	*value in currency.*		
Portuguese	Johannes, (called Joe,)	18	12	5	10	0
	Half Joe,	9	6	2	15	0
	Quarter Joe,	4	15	1	7	6
	Moidore,	6	22	2	0	0
	Half Moidore,	3	11	1	0	0
English	Guinea,	5	8	1	12	6
	Half Guinea,	2	16	0	16	3
	Sovereign,	5	2	1	12	0

Any of the above gold coins being found light, must pass according to their actual weight; and the deduction is 3d. currency for every grain of deficiency.

Thus, a doubloon weighing 17 dwt. 6 grains, is worth only £4 19s. 6d. currency.

Also, bits, or bitts, which are Spanish reals, and which pass for 7½d. currency. Thus, 10 bits and 5d. currency make 1 dollar; and 1 bit is worth 5$\frac{5}{14}$d. sterling.

Pistereens, or two bit pieces, which are Spanish pesetas, pass for 1s. 3d. currency, or 10$\frac{5}{7}$d. sterling.

English shillings and sixpences occasionally pass here as pistereens and bits.

From the foregoing value of the different coins, the following is the intrinsic par of the currency of Jamaica, with respect to sterling.

According to the English gold coins, £100 sterling = £154 15 0 currency
Spanish " " " = 156 13 2 "
Portuguese " " " = 155 0 0 "
Dollar " " " = 154 11 9 "

It should be observed, that the above calculation on the Spanish gold is made at £5 per doubloon; but the current price is £5 6s. 8d., though generally printed in almanacs, &c. as £5.

According to a law of the Assembly of Jamaica, the exchange with England was formerly fixed at 40 per cent.; but it has varied from this considerably.

Bills have been sometimes at a premium of 20 per cent. above the legal exchange, and they are seldom under 10. Dollars occasionally bear a premium of 3 or 4 per cent.

BARBADOES.

The currency of Barbadoes has been formerly reckoned at 133⅓, and sometimes at 140 for £100 sterling; but it never was settled by any legal authority, nor does either of these numbers appear to be correct. When these proportions were reckoned, the Spanish doubloon was valued at £4 10s. Barbadoes currency; but of late, doubloons have been circulated at £5 currency, or 16 dollars, with their divisions in proportion; and in consequence of this, a rise has taken place in the market from 135 to 150 currency for £100 sterling, and most of the other coins have left the colony to purchase doubloons.

The silver coins current in Barbadoes are dollars, with halves, quarters, eighths, and sixteenths; passing for 6s. 3d., 3s. 1½d., 1s. 6¾d., 9½d., and 4¾d. currency. Also bits, which are Spanish reals, and which pass for 7½d. currency. Thus, 10 bits make 1 dollar, and one bit is worth 5⅕d. sterling. Pistereens, or two bit pieces, which are Spanish pesetas, pass for 1s. 3d. currency.

There are also French bits, called *Crimbal*, or *Isle du Vent*, bits, which pass for 7½d. currency.

In all military payments throughout the West Indies, and in most other transactions with the British government, the dollar is reckoned at 4s. 8d. sterling, which is generally called the *Army par*, to distinguish it from the commercial par, which is reckoned at 4s. 6d. sterling.

ENGLISH LEEWARD ISLANDS.

Tortola, The Saints, Barbuda, Antigua, St. Kitts, Nevis, Montserrat, Dominica, &c.

The dollar here is reckoned at 9s. which rate is most generally called the *Leeward currency.*

A small circular piece is mostly cut out of the centre of the dollar, which is about 1/12 of its value; but in order to prevent its exportation, it is allowed to pass for ⅛, and is then stamped, by authority, with the initials of the island.

The dollar thus cut passes for 8s. 3d. currency. It is called the *cut dollar*, to distinguish it from the entire piece, which is sometimes called the *round dollar.*

The piece taken from the dollar is sometimes called the bit, and sometimes the *moco;* but the regular bit is the Spanish real. In some places the moco is ¼ of the dollar, and in others ⅛. Dollars are occasionally cut into halves, quarters, &c., and pass accordingly.

There are here small copper coins, called stamps, dogs, and half dogs.

The following Table shows the value and proportion of the principal coins circulating in these islands.

				Leeward currency.		
2	half dogs make	1 dog,	=	£0	0	1½
1½	dog	1 stampe,	=	0	0	2¼
6	dogs or 4 stampes	1 bit,	=	0	0	9
1½	bit	1 moco,	=	0	1	1½
11	bits	1 cut dollar,	=	0	8	3
12	bits or 8 mocos	1 round dollar,	=	0	9	0
5	round dollars	1 guinea,	=	2	5	0
8	cut dollars	1 joe,	=	3	6	0
16	round dollars	1 doubloon,	=	7	4	0

The divisions of the above gold coins pass in proportion; and for any deficiency of weight a deduction is made of a round dollar per dwt.; that is, 4½d. currency per English grain. The exchange with London is generally about 200 per cent.

ENGLISH WINDWARD ISLANDS.

Tobago, St. Vincent, Grenada, &c.

The currencies, monies, coins, and exchanges of these colonies are nearly the same as those of the Leeward Islands, as described in the last article. There are, however, certain local regulations and customs, which should be stated.

The dollars in St. Vincent are cut in halves and quarters, and pass accordingly, at the rate of 8s. 3d. per dollar. Stamps and dogs are not equally used in all the islands; the former are chiefly current in Tobago, and the latter in St. Vincent and Grenada. The bit, which is cut out of the middle of the dollar, is reckoned the eleventh part; it is mostly issued by the Government of the Islands, and marked accordingly, viz. St. V. for St. Vincent; T. for Tobago, and G. for Grenada.

Bits cut out of the dollar and not stamped by Government, are, by an act of the Assembly of Grenada, to be taken only at 6d. currency, while the stamped bit passes for 9d.

The price of gold here is the same as in the Leeward Islands; that is, 1 round dollar per dwt., or 4½d. currency per English grain.

FRENCH ISLANDS.

Martinico, St. Lucia, Guadaloupe, Mariagalante, St. Martins, &c.

Accounts are kept by the French settlers here in livres, sols, and deniers; and by the English (particularly in exchanges) in pounds, shillings, and pence currency; the livre and shilling being of one value.

This currency is the same as that of the English Leeward and Windward Islands; hence the dollar passes for 9 livres or shillings, and other coins in proportion. The names, however, of the same coins are different; thus, the dog is called here the *noir;* the stampe, the *tempe;* the bit, the *escalin;* and the dollar the *gourde.*

The following table shows the value of the coins both in Livres and Leeward Currency.

	liv.	*sols.*	*den.*	*Leeward currency.*
The noir or dog,	0	2	6	£0 0 1½
The tempe or stampe,	0	3	9	0 0 2¼
The trois tempés,	0	11	3	0 0 6¾
The escalin or bit,	0	15	0	0 0 9
The trois petites pieces,	1	2	6	0 1 1½
The piece de trente sols or pistereens,	1	10	0	0 1 6
The moco,	2	5	0	0 2 9
The gourde or dollar,	9	0	0	0 9 0
The ecu of 6 livres,	9	17	6	0 9 10½
The louis d'or,	40	10	0	2 0 6
Guinea,	45	0	0	2 5 0
Napoleon of 40 francs,	66	13	4	3 6 8
Doubloon,	144	0	0	7 4 0

All the divisions of the above gold coins pass in proportion, if full weight. Gold is weighed by the gros, which is ⅛ of the old French ounce, (Poids de marc.) The gros is divided into 72 French grains, which equal 59 grains, English troy.

The following gold coins are taken by actual weight, viz.

Portugal pieces at	22 livres per gros.
Counterfeit do. coined in America, at	20 do. do. do.
French and Spanish coins, deficient in weight, at	£19 15s. per gros.

English do. at 8 livres, 8 sols per dwt., that is, 7 sols per English grain.

ST. DOMINGO OR HAYTI.

In the French part of St. Domingo or Hayti, accounts were formerly kept, as above, in livres, sols, and deniers current, and the dollar was then reckoned at 8 livres, 5 sous current; but, at present, accounts are mostly kept in dollars and cents, as in the United States.

The monies in circulation are nearly the same as in the Leeward Islands. Dollars are valued at 4*s.* 6*d.* sterling, with halves and quarters in proportion. 11 escalins pass for 1 dollar, and 1 escalin is reckoned at 9 cents. Doubloons pass for 16 dollars; joes for 8 do.; French crowns for 1 dollar, 9 cents, and the half crowns in proportion. French pieces of 5 francs pass for 9 escalins, or 81 cents.

DUTCH COLONIES.

St. Eustatia, St. Martin, Curacao.

Accounts are kept in these Islands, in pieces of eight, that is, piastres current, of 8 reals or schillings, each real being subdivided into 6 stivers. The piastre gourde, or Spanish dollar passes for 11 reals or bits; and thus the current piastre is worth 3s. 5d. sterling, reckoning the dollar at 4s. 8d.

The joe passes here for 11 piastres current; the Spanish single pistole for $4\frac{1}{2}$ piastres more or less; the other Spanish and Portuguese gold coins in proportion.

DANISH ISLANDS.

St. Thomas, St. John, Santa Cruz.

Accounts are kept here in piastres or rixdollars current, (also called pieces of eight;) each rixdollar being divided into 8 schillings or bits, and each bit into 6 stivers.

Accounts are also kept in dollars of 100 cents, as in America.

The rixdollar current, is commonly reckoned 20 per cent. worse than Danish currency; but, according to the price of most of the Danish coins in these Islands, the difference is 25 per cent.; thus the Danish current ducat of 2 rixdollars, Danish currency, passes here for $2\frac{1}{2}$ rixdollars, or 20 bits; and the Danish bank notes of 5 rixdollars, pass in the same proportion for $6\frac{1}{4}$ rixdollars.

The silver coins struck for the Danish Islands are, quadruple, double, and single bits, and pieces of 1 and 3 stivers.

The Spanish dollar passes here for $12\frac{1}{2}$ bits, and each bit for $6\frac{1}{4}$ stivers; also for $8\frac{1}{4}$ shillings, Tortola currency.

The Leeward currency is used in the Danish Islands in the purchase or negotiation of bills on England, though accounts are not so kept. Gold is valued at 1 dollar per dwt., or $4\frac{1}{2}$d. currency, per English grain. The exchange between London and these Islands is £100 sterling for £195 Tortola or Leeward currency; it is sometimes much higher. The Spanish dollar is given in exchange for the monies of other places.

SPANISH ISLANDS.

Cuba, Porto Rico, Trinidad, and part of St. Domingo.

The monies and coins of the Spanish Islands are the same as in all Spanish America. Accounts are kept here in Pesos, or dollars of 8 reals, the real being divided into halves and quarters. This real is occasionally divided into 16 parts; and also into 34 maravedis.

The gold coins are doubloons of 8 Escudos d'oro, worth 16 pesos, (with a premium of about 8 per cent.;) with halves, quarters, &c., in proportion. The silver coins are pesos Mexicanos or dollars, with halves and quarters. The quarters, in Spain, are called pecetas Mexicanas. There are also eighths or reals, which in Spain are valued at 21¼ quartos; also half reals.

Trinidad, having been many years in possession of the English, has chiefly adopted the denominations of money of the English Islands. Accounts are therefore kept here in pounds, shillings, and pence, Leeward currency; and also in dollars and bits, the bit being the 9th part of the dollar.

There are likewise silver pieces of half bits and quarter bits.

The Spanish, English and Portuguese gold coins, pass as follows, in Trinidad:

	dwt.	*gr.*	*dollars.*	*bits.*	*Leeward currency.*		
The doubloon,	17	8	15	8	£7	4	0
Half do.	8	16	7	8½	3	12	0
Joe,	7	12	6	8	3	2	0
Guinea,	5	8	4	8	2	4	0

Gold is valued at 8*s.* 3*d.* Leeward currency per dwt., or 4⅛*d* per grain.

St. Bartholomews, a small Swedish Island, uses the money and currency of the other Leeward Islands.

The Bermuda Islands use the Jamaica currency; and the Gold coins of England, France, Spain, Portugal, and the United States, whether cut or otherwise, pass by Law for 2*d.* sterling per grain.

The Bahama Islands generally use the New York currency; but they reckon the dollar here at 4*s.* 8*d.* sterling; and thus Bahama currency is reduced to sterling by multiplying by 7 and dividing by 12, and *vice versa.*

DAMAGES ON RETURNED BILLS.

When Bills drawn in the West Indies on London, are not duly honored, they are returned to the drawer, with the following charges:

	Damages.	*Interest per ann.*	*Time, how charged.*
Jamaica,	8 per cent.	6 per cent.	from date of the Bill.
Barbadoes,	10 per cent.	6 per cent.	from the time of presentation, with Protest.
Grenada,	10 per cent.	6 per cent.	from the Bill falling due.
St. Vincent,	10 per cent.	8 per cent.	"
Tobago,	10 per cent.	8 per cent.	"
Trinidad,	10 per cent.	6 per cent.	from date of the Protest.
Dominica,	10 per cent.	6 per cent.	"
Nevis,	10 per cent.	8 per cent.	"
Montserrat,	10 per cent.	8 per cent.	"
Antigua,	10 per cent.	8 per cent.	"
St. Kitts,	10 per cent.	8 per cent.	"
Tortola,	10 per cent.	8 per cent.	"
Demarara,	25 per cent.	6 per cent.	from date of presentation.
Essequibo,			
Berbice,			
Surinam,			
St. Thomas,	10 per cent.	10 per cent.	from date of the Protest.
St. John,			
Santa Cruz,			

There are occasionally other charges besides the above, such as postage, Notarial expenses, and difference of exchange.

If a Bill, drawn in the West Indies on any part of Great Britain, be noted for non-acceptance, the holder may oblige the drawer, by legal process, to give security in the Island for the amount, without waiting for the bill being protested for non-payment.

WEST INDIES.

MONIES OF EXCHANGE.

12 Pence = 1 Shilling. 20 Shillings = 1 Pound currency.

LONDON ON THE WEST INDIES.

West Indian currency is reduced to sterling by saying,—As the rate of exchange is to 100, so is the given sum to the sum sought.

EXAMPLE.

Reduce £778 16s. 4d. currency to sterling; exchange at £166 currency, per £100 sterling.

STATEMENT.

£		£		*currency.*
As 166	:	100	: :	£778 16s. 4d. to the sum sought.

Ans. £469 3s. 4d. sterling.

Currency, at the following prices, may be thus reduced to sterling.

At 50	mult. by 2	div. by 3	At 75	mult. by 4	div. by 7
52½	“ 40	“ 61	77½	“ 40	“ 71
55	“ 20	“ 31	80	“ 5	“ 9
57½	“ 40	“ 63	82½	“ 40	“ 73
60	“ 5	“ 8	85	“ 20	“ 37
62½	“ 8	“ 13	87½	“ 8	“ 15
65	“ 20	“ 33	90	“ 10	“ 19
67½	“ 40	“ 67	92½	“ 40	“ 77
70	“ 10	“ 17	95	“ 20	“ 39
72½	“ 40	“ 69	97½	“ 40	“ 79

WEST INDIES ON LONDON.

Sterling is reduced to West Indian currency by reversing the foregoing operation; that is, as 100 is to the rate of exchange, so is the given sum to the sum sought.

EXAMPLE.

Reduce £469 3s. 4d. sterling to West Indian currency; exchange at £166 currency per £100 sterling.

STATEMENT.

£		£		*sterling.*
As 100	:	166	::	£469 3s. 4d. to the sum sought.

Ans. £778 16s. 4d. currency.

Sterling, at the following prices, may be thus reduced to currency.

At 50	mult. by 3	div. by 2	At 75	mult. by 7	div. by 4
52½	“ 61	“ 40	77½	“ 71	“ 40
55	“ 31	“ 20	80	“ 9	“ 5
57½	“ 63	“ 40	82½	“ 73	“ 40
60	“ 8	“ 5	85	“ 37	“ 20
62½	“ 13	“ 8	87½	“ 15	“ 8
65	“ 33	“ 20	90	“ 19	“ 10
67½	“ 67	“ 40	92½	“ 77	“ 40
70	“ 17	“ 10	95	“ 39	“ 20
72½	“ 69	“ 40	97½	“ 79	“ 40

EAST INDIES.

MONIES OF EXCHANGE.

The business of Exchange in India is chiefly carried on between the three Presidencies, viz. Bengal, Madras, and Bombay, which draw on each other at various dates, and mostly in the denominations of the money of the place where the Bill is to be paid.

London draws on Bengal in Current Rupees, at 2*s.* more or less; or in Sicca Rupees at 16 per cent. above Current Rupees.

On Madras, in Pagodas, at 7*s.* 6*d.* more or less.

On Bombay, in Rupees, at 2*s.* 2*d.* more or less.

Such Bills are mostly at 60 or 90 days' sight, but Bills from those places on London are generally drawn at 6, 9, or 12 months' sight, in which case the Sicca Rupee is valued at 2*s.* 6*d.*; the Bombay Rupee at 2*s.* 4*d.*; and the Pagoda of Madras, at 8*s.* more or less.

Those monies of Exchange are divided as follows:

BENGAL, CALCUTTA, &c.

12 Pice = 1 Anna. 16 Annas = 1 Rupee. 1 Sicca Rupee = 2*s.* 6*d.* sterl.

BOMBAY.

100 Rees = 1 Quarter. 4 Quarters = 1 Rupee. 1 Rupee = 2*s.* 4*d.* sterling.

MADRAS.

80 Cash = 1 Fanam. 45 Fanams = 1 Star Pagoda. 1 Star Pagoda = 8*s.* sterl.

To reduce any number of Rupees or Pagodas into sterling at a given rate of Exchange, or the contrary, is an operation too simple to require illustration.

A TABLE

For reducing the French, Dutch, Portuguese, and British Currencies to that of the United States, at par.

FRANCE AND THE UNITED STATES.									PORTUGAL, OR BRAZILS, AND THE U. STATES.				
COLUMN 1.					COLUMN 2.				COLUMN 3.				
To reduce French to United States currency.					To reduce the United States to French currency.				To reduce Portugal and Brazilian to United States currency.				
FRANCE.		UNITED STATES.			UNITED STATES.		FRANCE.		PORTUGAL AND BRAZILS.		U. STATES.		
Francs.	*cent.* =	*Dolls.*	*cts.*	*mills.*	*Dolls.*	*cts.* =	*Francs.*	*cent.*	*Millrees.*	*rees.* =	*Dolls.*	*cts.*	*mills.*
	1			$1\frac{7}{8}$		1		$5\frac{1}{3}$		1			$1\frac{1}{4}$
	2			$3\frac{6}{8}$		2		$10\frac{2}{3}$		2			$2\frac{1}{2}$
	3			$5\frac{5}{8}$		3		16		3			$3\frac{3}{4}$
	4			$7\frac{4}{8}$		4		$21\frac{1}{3}$		4			5
	5			$9\frac{3}{8}$		5		$26\frac{2}{3}$		5			$6\frac{1}{4}$
	6		1	$1\frac{2}{8}$		6		32		6			$7\frac{1}{2}$
	7		1	$3\frac{1}{8}$		7		$37\frac{1}{3}$		7			$8\frac{3}{4}$
	8		1	5		8		$42\frac{2}{3}$		8		1	0
	9		1	$6\frac{7}{8}$		9		48		9		1	$1\frac{1}{4}$
	10		1	$8\frac{6}{8}$		10		$53\frac{1}{3}$		10		1	$2\frac{1}{2}$
	20		3	$7\frac{4}{8}$		20	1	$6\frac{2}{3}$		100		12	5
	30		5	$6\frac{2}{8}$		30	1	60		200		25	0
	40		7	5		40	2	$13\frac{1}{3}$		300		37	5
	50		9	$3\frac{6}{8}$		50	2	$66\frac{2}{3}$		400		50	0
	60		11	$2\frac{4}{8}$		60	3	20		500		62	5
	70		13	$1\frac{2}{8}$		70	3	$73\frac{1}{3}$		600		75	0
	80		15			80	4	$26\frac{2}{3}$		700		87	5
	90		16	$8\frac{6}{8}$		90	4	80		800	1	00	0
1			18	$7\frac{4}{8}$	1		5	$33\frac{1}{3}$		900	1	12	5
2			37	5	2		10	$66\frac{2}{3}$	1		1	25	
3			56	$2\frac{4}{8}$	3		16	00	2		2	50	
4			75		4		21	$33\frac{1}{3}$	3		3	75	
5			93	$7\frac{4}{8}$	5		26	$66\frac{2}{3}$	4		5	00	
6		1	12	5	6		32	00	5		6	25	
7		1	31	$2\frac{4}{8}$	7		37	$33\frac{1}{3}$	6		7	50	
8		1	50		8		42	$66\frac{2}{3}$	7		8	75	
9		1	68	$7\frac{4}{8}$	9		48	00	8		10	00	
10		1	87	5	10		53	$33\frac{1}{3}$	9		11	25	
20		3	75		20		106	$66\frac{2}{3}$	10		12	50	
30		5	62	5	30		160	00	20		25	00	
40		7	50		40		213	$33\frac{1}{3}$	30		37	50	
50		9	37	5	50		266	$66\frac{2}{3}$	40		50	00	
60		11	25		60		320	00	50		62	50	
70		13	12	5	70		373	$33\frac{1}{3}$	60		75	00	
80		15	00		80		426	$66\frac{2}{3}$	70		87	50	
90		16	87	5	90		480	00	80		100	00	
100		18	75		100		533	$33\frac{1}{3}$	90		112	50	
200		37	50		200		1066	$66\frac{2}{3}$	100		125		
300		56	25		300		1600	00	200		250		
400		75	00		400		2133	$33\frac{1}{3}$	300		375		
500		93	75		500		2666	$66\frac{2}{3}$	400		500		
600		112	50		600		3200	00	500		625		
700		131	25		700		3733	$33\frac{1}{3}$	600		750		
800		150	00		800		4266	$66\frac{2}{3}$	700		875		
900		168	75		900		4800	00	800		1000		
1000		187	50		1000		5333	$33\frac{1}{3}$	900		1125		
									1000		1250		

PORTUGAL & BRAZILS, AND THE U. STATES.

HOLLAND AND THE UNITED STATES.

Column 4.				Column 5.							Column 6.				
To reduce United States currency to that of Portugal and Brazils.				To reduce Dutch to United States currency.							To reduce United States currency to that of Holland.				
U. STATES.		PORT. AND BRAZILS.		HOLLAND.				UNITED STATES.			UNITED STATES.		HOLLAND.		
Dolls.	*cts.*	= *Millrees.*	*rees.*	*Gild.*	*sti.*	*gr.*	*pen.* =	*Dolls.*	*cts.*	*mills.*	*Dolls.*	*cts.* =	*Gild.*	*sti.*	*pen.*
	1		8				1			1¼		1		0	8
	2		16				2			2½		2		1	0
	3		24				3			3¾		3		1	8
	4		32				4			5		4		2	0
	5		40				5			6¼		5		2	8
	6		48				6			7½		6		3	0
	7		56				7			8¾		7		3	8
	8		64			1			1			8		4	0
	9		72		1				2			9		4	8
	10		80		2				4			10		5	
	20		160		3				6			20		10	
	30		240		4				8			30		15	
	40		320		5				10			40	1	00	
	50		400		6				12			50	1	5	
	60		480		7				14			60	1	10	
	70		560		8				16			70	1	15	
	80		640		9				18			80	2	5	
	90		720		10				20			90	2	00	
1			800	1					40		1		2	10	
2		1	600	2					80		2		5	00	
3		2	400	3				1	20		3		7	10	
4		3	200	4				1	60		4		10	00	
5		4	000	5				2	00		5		12	10	
6		4	800	6				2	40		6		15	00	
7		5	600	7				2	80		7		17	10	
8		6	400	8				3	20		8		20	00	
9		7	200	9				3	60		9		22	10	
10		8		10				4			10		25		
20		16		20				8			20		50		
30		24		30				12			30		75		
40		32		40				16			40		100		
50		40		50				20			50		125		
60		48		60				24			60		150		
70		56		70				28			70		175		
80		64		80				32			80		200		
90		72		90				36			90		225		
100		80		100				40			100		250		
200		160		200				80			200		500		
300		240		300				120			300		750		
400		320		400				160			400		1000		
500		400		500				200			500		1250		
600		480		600				240			600		1500		
700		560		700				280			700		1750		
800		640		800				320			800		2000		
900		720		900				360			900		2250		
1000		800		1000				400			1000		2500		

GREAT BRITAIN AND THE UNITED STATES.

To reduce £ sterling to Dollars and Cents.

Column 7.

GREAT BRITAIN.		UNITED STATES.		
£	s. =	Dolls.	cts.	mills.
	1		22	2
	2		44	4
	3		66	6
	4		88	8
	5	1	11	1
	6	1	33	3
	7	1	55	5
	8	1	77	7
	9	2	00	0
	10	2	22	2
	11	2	44	4
	12	2	66	6
	13	2	88	8
	14	3	11	1
	15	3	33	3
	16	3	55	5
	17	3	77	7
	18	4	00	0
	19	4	22	2
1		4	44	4
2		8	88	8
3		13	33	3
4		17	77	7
5		22	22	2
6		26	66	6
7		31	11	1
8		35	55	5
9		40	00	0
10		44	44	4
20		88	88	8
30		133	33	3
40		177	77	7
50		222	22	2
60		266	66	6
70		311	11	1
80		355	55	5
90		400	00	0
100		444	44	4
200		888	88	8
300		1333	33	3
400		1777	77	7
500		2222	22	2
600		2666	66	6
700		3111	11	1
800		3555	55	5
900		4000	00	0
1000		4444	44	4

Column 8.

G. BRITAIN.	U. STATES.	
Pence. =	Cts.	mills.
¼		4½
½		9⅓
¾	1	4
1	1	8
2	3	7
3	5	5
4	7	4
5	9	3
6	11	1
7	13	0
8	14	8
9	16	7
10	18	5
11	20	4

Column 9.

To reduce Dolls. and Cts. to £ sterling.

UNITED STATES.		GREAT BRITAIN.			
Dolls.	cts.	£	s.	d.	qr.
	1			0	2.16
	2			1	0.32
	3			1	2.48
	4			2	0.64
	5			2	2.80
	6			3	0.96
	7			3	3.12
	8			4	1.28
	9			4	3.44
	10			5	1.60
	20			10	3.20
	30		1	4	0.80
	40		1	9	2.40
	50		2	3	0.00
	60		2	8	1.60
	70		3	1	3.20
	80		3	7	0.80
	90		4	0	2.40
1			4	6	
2			9	0	
3			13	6	
4			18	0	
5		1	2	6	
6		1	7	0	
7		1	11	6	
8		1	16	0	
9		2	00	6	
10		2	5		
20		4	10		
30		6	15		
40		9	00		
50		11	5		
60		13	10		
70		15	15		
80		18	00		
90		20	5		
100		22	10		
200		45	00		
300		67	10		
400		90	00		
500		112	10		
600		135	00		
700		157	10		
800		180	00		
900		202	10		
1000		225	00		

USE OF THE TABLES.

COLUMN 1.

Reduce 61754 francs, 73 centimes, French, to federal money, at *par.*

1000	francs are equal to		$187.50
	Multiplied by		61
			187.50
			11250.0
61000	francs are equal to		11437.50
700	" are	=	131.25
50	" are	=	9.37½
4	" are	=	75
0.70	" are	=	13¼
3	" are	=	5½
61754.73	" are	=	$11579.06¼

COLUMN 2.

Reduce 12794 dollars, 84 cents, to French money, at *par.*

1000	dollars are equal to		F.5333.33⅓
	Multiplied by		12
12000	dollars are equal to		64000.00
700	" are	=	3733.33⅓
90	" are	=	480.00
4	" are	=	21.33⅓
0.80	" are	=	4.26⅔
4	" are	=	21⅓
12794.84	" are	=	F.68239.14⅔

COLUMN 3.

Reduce 11754 millrees, 637 rees, to federal money, at *par.*

1000	millrees are equal to		$1250.00.0
	Multiplied by		11
11000	millrees are equal to		13750.00.0
700	" are	=	875.00.0
50	" are	=	62.50.0
4	" are	=	5.00.0
0.600	" are	=	0.75.0
10 rs.=1 ct.2½ mills,mult.by 3,is the val. of 30	and is		3.7½
7	" are	=	8¾
R.11754.637	" are	=	$14693.29.6¼

COLUMN 4.

Reduce 8694 dollars, 73 cents, to Portugal money, at *par.*

$1000	dollars	are equal to	R.800.000
		Multiplied by	8
8000	dollars	are equal to	6400.000
600	"	are =	480.000
90	"	are =	72.000
4	"	are =	3.200
0.70	"	are =	560
3	"	are =	24
$8694.73		are = millrees,	6955.784

COLUMN 5.

Reduce 6793 guilders, 16 stivers, 1 grote, 4 pennings, to federal money, at *par.*

1000	guilders	are equal to	$400.00.0
		Multiplied by	6
6000	guilders	are equal to	2400.00.0
700	"	are =	280.00.0
90	"	are =	36.00.0
3	"	are =	1.20.0
0.16 stiv.		are =	32.0
0.1 gr.		is =	1.0
0.4 pen.		are =	0.5
6793.16.1.4			2717.53.5

COLUMN 6.

Reduce 5754 dollars, 37 cents, to Dutch money, at *par.*

1000	dollars	are equal to	guilders 2500
		Multiplied by	5
5000	dollars	are equal to	12500
700	"	are =	1750
50	"	are =	125
4	"	are =	10
0.30	"	are =	0.15 stivers.
7	"	are =	0.03 st. 8 pen.
5754.37			14385.18. .8

Columns 7 and 8.

Reduce £4975 13s. 6¼d. sterling, to federal money, at *par.*

£1000	are equal to	$4444.44.4
Multiplied by		4
£4000	are equal to	17777.77.6
900	are =	4000.00.0
70	are =	311.11.1
5	are =	22.22.2
0 13s.	are =	2.88.8
6d.	are =	11.1
¼d.	is =	4½
£4975 13s. 6¼d.		$22114.11.2½

Column 9.

Reduce 8754 dollars, 37 cents, to sterling, at *par.*

1000 dollars	are equal to	£225.00.0.0
Multiplied by		8
8000 dollars	are equal to	1800.00.0.0
700 "	are =	157.10.0.0
50 "	are =	11.05.0.0
4 "	are =	18.0.0
0,30 "	are =	1.4.1
7 "	are =	3.3
$8754.37 "	are =	£1969.14.8.0

In column 9, the first line of figures on the right hand, are hundredths of a farthing, and was introduced with a view to enable any one to test the correctness of the Table; as 1 cent is equal to 2 qr. .16, 2 cts. are equal to 1d. 0 qr. .32, and 3 cts. are equal to 1d. 2 qr. .48, &c. &c. In general, the fractions may be neglected throughout the Table.

SYNOPSIS OF THE MARINE LAW:

CONTAINING ALL THAT IS NECESSARY FOR THE INFORMATION OF A

SHIP-MASTER.

OWNERS, AND TRANSFER OF PROPERTY.

It is obvious that one may be owner of a ship by building her, or by purchase. Ships or vessels are a species of property which appears from very early times to have been evidenced by written documents, and at present always is so, which other moveable goods seldom are; and, therefore, the purchaser of a ship has, in this instance, the means of ascertaining the title of any person who offers to sell, and can rarely be deceived except by his own fault or negligence. Sir W. Scott, in the case of the Sisters, said,—" A bill of sale is the proper title to which the Maritime Courts of all countries would look. It is the universal instrument of transfers of ships in the usage of all maritime countries, and in no degree a peculiar title deed or conveyance, known only to the law of England. It is what the maritime law expects, and what the Court of Admiralty would, in its ordinary practice, require, and what the British Legislature has made absolutely necessary." It may be added, that it is equally necessary in the United States.

The master, as will more fully appear hereafter, possesses all the powers necessary for the employment and navigation of the ship; but he has not, except in cases of extreme necessity, authority to sell the ship. And cases of such extreme necessity very rarely happen. Although the master himself be part owner, yet his sale would be good only for his own part. This interdiction of sale has been attempted to be evaded in foreign countries, by procuring a sentence of condemnation and sale of a ship as unfit for service, from some court or judge having jurisdiction in maritime affairs; but it has been solemnly adjudged that no such jurisdiction is known to the law of England, and the same opinion, it may be added, would be held in our courts. The *fact* upon which such sentence and order of sale is founded, is subject to be inquired into again by the parties interested; and it has often been done with success, and ascertained that the proceedings have been fraudulent.

Maritime writers hold, that if a ship be sold with the tackle, apparel, furniture and other instruments thereto belonging, that the ship's boat is not conveyed by these words.

When a ship is in the country of the owner, and an actual delivery is possible, such a delivery is necessary to give a perfect title to the buyer, in case of a sale of the *whole* ship; although, as between buyer and seller, the sale may be completed by payment of the price, without such delivery; yet third persons, as, for instance, creditors of the seller, may dispute the validity of the sale, in such case.

But in case of the sale of *part* of the ship, it has been deemed sufficient if the seller deliver up the muniments of his title, and ceases from the time to act as part owner; but if such part owner has *actual* possession of the ship, it is not impossible for him to deliver the possession, and it should be done; but where he has not *actual* possession, the possession of the other part owner may reasonably be considered the possession of the buyer.

But when a ship is *abroad*, a perfect transfer may be made of her by a *bonâ fide* sale; provided the vendee use reasonable diligence on her return to take possession; and this holds true in case of a mortgage.

If a ship be wrecked in a foreign port, abandoned, and afterwards sold by the government of that country, the purchaser acquires a perfect title by such sale.

Mortgagor and Mortgagee.—In a few cases the question has been agitated, whether the mortgagee of a ship, who has not taken possession, is liable for such repairs and other expenses, as are not a charge upon the ship itself in specie. And in one case it was held that such mortgagee is not liable. But in this case the mortgagor acted personally in the management of the ship, as owner, so that it is not a case which clearly settles the principle. And, in a more recent case, the correctness of that opinion was in some degree questioned; in a later one, the same question was called up, but not decided. By way of caution, therefore, until the point is better settled, every person who takes a mortgage of a ship should consider it possible, at least, that he may expose himself to loss by the very act from which he expects a security.

Chartered Ship.—The question has been raised, in the case of a ship chartered to one person, *who* is the owner, with respect to *another* person, whose goods have been shipped under the authority of the charterer. In a case where the owner of a ship chartered her to another, for a particular voyage, for a certain sum, he to have the freight of goods, reserving to the owner the freight of passengers,—and the owner appointed the master, and covenanted for the condition of the ship and the behavior of the master. The person thus taking the ship on charter, took on board goods on freight, and received the freight for them; but the goods were not delivered, and an action being brought for the goods and damages, the Court held that the owner of the ship, in this case, was liable; because the master was of his appointment, of course the ship under his direction to navigate,—and he derived the benefit from the voyage of the ship. In another case, one *James* brought an action against *Jones*, as owner of a ship, for the loss of some goods on a voyage from Faro to London. The case was this. *Thomas*, the master, had, in his own name, as master, chartered the ship to *Reed* from *Falmouth* to *Faro*, and back to London, and *Reed* engaged, by the charter party, to provide a full lading from *Faro*, and to pay a stipulated price per ton. The goods were shipped at *Faro*, by the consent of *Reed* at that place; and *Thomas*, the master, signed a bill of lading engaging to deliver them to the plaintiff, *James*—"he paying freight per charter party." In this case the Court intimated an opinion, that *Reed* was owner for the voyage, as it respected *James*, and that *Jones* was not responsible to *James*, with which the parties were satisfied, and the case was carried no farther. It will be noticed that the latter case differs from the former in this, that the bill of lading stipulates payment of the freight *according to the charter party;* and although the master was put in by the owner, *Jones*, and not by *Reed*, yet *Reed* was considered, in this case, as owner for the voyage, and *Thomas*, the master, for this purpose as his agent. Both these cases seem to present matter of form rather than matter of substance; for, in either case, the owners were liable, at the suit of the person to whom the ship was chartered, to a recovery of the damages for the benefit of the merchant, whose goods were lost.

The owners of a ship, chartered for a voyage, still continue owners for the purpose of receiving salvage in case of property saved by the crew; and although one of the charterers be on board, and consent that a part of the crew shall navigate the saved vessel. This is not such an act as puts the ship at the risk of the charterers.

PROPERTY IN AMERICAN SHIPS.

All commercial nations have, for the advancement of their individual prosperity, conferred various privileges of trade upon the ships belonging to their own countrymen. The United States have followed this wise example, and conferred peculiar privileges upon ships built within the country, by several Acts of Congress, which need not be enumerated here. These Acts relate to all ships employed at sea, which may be divided into five classes, viz. 1st, ships of the United States employed in foreign trade, which are entitled to be *registered.* 2d, ships built in the United States, but owned wholly or in part by foreigners, which are entitled to be *recorded.* 3d, ships built out of the United States, but owned by citizens, which are entitled to a *certificate of ownership.* 4th. ships of the United States employed in the coasting trade or fisheries, which are entitled to be *enrolled and licensed.* 5th, ships built out of the United States, and owned by foreigners, which are considered alien vessels to all intents and purposes.

Ships actually registered, and such as are duly qualified for the coasting and fishing business, or one of them, are alone considered *ships or vessels of the United States*, entitled to the rights and privileges of such ships or vessels, and they continue to enjoy these privileges no longer than they continue to be wholly owned and commanded by citizens of the United States of America.

The *master's name is contained in a ship's register*, and when the master is *changed*, the owner or the new master is to report such change to the collector of the port where the change happens, or where the ship shall first be after the change, and to produce to the collector the certificate of registry, and make oath or affirmation that the new master is a citizen of the United States, and the manner in which he is such citizen. The collector is to endorse upon the certificate a memorandum of such change, specifying the name of the new master, and to transmit a copy of it to the collector of the district where the ship is registered, if it be not his own district.

So if a registered ship be sold or transferred, in whole or in part, to a foreigner, by way of trust, confidence, or otherwise, the sale or transfer must be reported in like manner, or the ship will be forfeited; but if the ship be owned in part only, the shares of the owners knowing of such sale or transfer, are only forfeited. Registered ships must have their names and the ports to which they respectively belong, painted on the stern, under a penalty of $50.

Every registered vessel of the United States of America, altered in form or burthen, by being lengthened or built upon, or from one denomination to another, by the mode of rigging or fitting, must be registered anew by her former name, and the former register given up, unless lost or unintentionally mislaid, or she will cease to be a ship of the United States of America. Upon the entry of every registered ship from any foreign port, the register and ship's documents must be deposited with the collector. And upon such entry an oath or affirmation must be made, that it contains the names of all the *then* owners of the ship, or if any part has been transferred since the granting the register, that such is the case, and that no foreigner has any share in the ship, by way of trust, confidence, or otherwise. This oath must be taken by the owner or part owner, if the entry be at the port where they reside, otherwise by the master.

If the certificate of registry be lost, destroyed, or mislaid, a new register may be granted upon oath or affirmation of the facts, and complying with the requisites of the law in relation to the registry of ships. But so valuable a paper ought to be preserved with the greatest care.

Upon every transfer there must be some instrument in writing in the nature of a bill of sale, which must recite the certificate of registry, at length, otherwise the ship is incapable of being registered anew, and loses the privileges of a ship of the United States of America; but the want of this in the instrument does not invalidate the contract of sale, it only subjects the ship to the consequences attached to a foreign vessel.

When a registered ship is sold, in whole or in part, when abroad, to a citizen of the United States of America, she is entitled to all the privileges of a registered ship of the United States, provided the requisites of law are complied with, and a new certificate of registry is obtained within three days from the time when the master or other person having the charge or command is required to make his final report upon his first arrival afterwards within the United States of America.

This is but a very brief sketch of the provisions in the statute laws of the United States relative to ships and vessels; but it is enough for our purpose, because, for the most part, they more immediately concern the *owners* than the *masters* of ships.

PART OWNERS.

The several part owners of a ship are tenants in common with each other, of their respective shares, and upon the death of any one of them, his share goes to his executor or administrator. It is obvious that a ship owned by several distinct proprietors, cannot be enjoyed advantageously by all, without a common consent and agreement among them; and to regulate the enjoyment of a personal chattel by several owners, in case of disagreement, has been found one of the hardest tasks of legislation. It has been justly deemed wise in a legislature to interfere as little as possible upon the subject, in order that the separate interests of the parties should constrain them to pursue towards each other a profitable and equitable course, for their mutual benefit. But in the case of ships, which are built to plough the ocean, and not to lie by the walls, commercial nations consider their actual employment, not merely as of private advantage, but of public benefit to the State; and hence have, in respect to them, laid down certain positive rules, to prevent the obstinacy of some part owners from condemning a ship to rot in idleness.

It sometimes happens, that the several part owners of a ship enter into a fixed and certain agreement together, to delegate to one of them the management of their common concern, who, by an intelligent figure of speech, is called the ship's husband; and, when this is done, nothing is left for the law but to enforce the agreement thus made.

It is only when the enjoyment of the property is not thus settled by the parties, that the law interferes in case of disagreement among them.

The ordinances of *Oleron & Wisbuy* are silent upon the subject of disagreement among the owners as to the employment of the ship. By the ordinance of the *Hans Towns*, if the owners disagree as to the freighting of the ship, the majority of voices carries it; and yet the master may take money on bottomry for those who will not contribute their part to the outfit. The *French* ordinance directs that in all cases which concern the common interest, the opinion of the majority in value shall be followed.

The ordinance of *Rotterdam* gives power to a majority, possessed of above half the ship, to let her out on freight, and bind all the part owners thereby, and to raise money upon the outfit, either by borrowing it on bottomry, or by disbursing for the shares of the other owners, who appear unwilling to contribute after due notice; and the same ordinance even authorizes more than one half to sell the ship for the general account.

But the law of *England* appears to possess a manifest advantage over all these ordinances; because, while it authorizes a majority to employ the ship upon any probable design, it takes care to secure the interests of those who dissent. And the Admiralty, from very remote times, take a stipulation from those who desire to send the ship on a voyage, in a sum equal to the value of all the shares of those who object, either to bring back and restore the ship, or to pay them the value of their shares. When this is done, the objectors bear no part of the outfit, and are not entitled to any share of the profits, but the ship sails wholly at the charge, and risk, and profit of the others. This security may be taken upon a warrant, obtained by the minority, to arrest the ship, and it is incumbent on them to do this to protect their interests; or if they forbear to do this, they should, at all events, expressly notify their dissent to the others, and, if possible, to the merchants also, who freight the ship; for it has been decided, that one part owner cannot recover damages against another upon a charge of fraudulently and deceitfully sending the ship to foreign parts, where she was lost. It is a general principle of law, that where one tenant in common of any chattel interest whatever, merely takes the chattel from another tenant in common, and carries it away, no action lies against him; for one of them has as much right to the possession as any other of them. The doctrine above mentioned, it will be noticed, applies to a majority in interest of the owners, and not to a case where the owners of *one half* of the ship wish her to be employed, and the other half dissent; but a learned civilian, who wrote near the end of the seventeenth century, states that the same thing may be effected by one part only, in case of an equality of partnership. This doctrine is adopted by *Molloy*, and is followed in the modern practice of the Court of Admiralty.

Judge Peters, in the District Court of Pennsylvania, recognised fully the above doctrine as to a majority of owners, when a minority dissented; and he seemed to consider it questionable, whether a minority not be compelled to sell upon application by the majority to the Admiralty Court.

As to *repairs* and other necessaries for the employment of the ship, one part owner may, in general, by ordering these things on credit, render his companions liable to be sued for the price of them. Yet, if the person who gives the credit, does not at the time know that there are other part owners, he *may* sue him alone from whom he received the orders. But one part owner, by ordering insurance of the ship, without authority from another, cannot charge the other with any part of the premium, unless the other afterwards assents to the insurance.

Interest of part owners with regard to strangers.—All the part owners make but *one* owner in law; and, therefore, in case of any injury done to the ship by the wrong, negligence of a stranger, they all ought to join in one suit for the recovery of damages, which are afterwards to be divided among them according to their respective interests. And in case of the death of any part owner, after an injury sustained, the right of action survives, in general, to the surviving part owners, who must afterwards pay to the personal representatives of the deceased, his proportion of the damages recovered. In the case, however, of an action for freight of goods, conveyed in a *general* ship, all the part owners ought to join, unless, perhaps, some of them should have received his share, or released his claim to it. And regularly, all the owners should be sued if an action is brought upon any contract relating to the ship. And if a tradesman, who has repaired a ship, take from some of the part owners sums equivalent to their shares, they still remain responsible for the residue, if not paid by the others, unless at the time of payment, the tradesman discharge them from further demand, upon some good consideration inducing him so to do—such as payment before the expiration of the usual credit; or unless he release them by deed—which no prudent man will do without some very strong inducement. And in such case, if he takes in payment the bill of the ship's husband (a part-owner) for the amount, and settles with him alone, the other owners are discharged, though the bill should be dishonored.

MASTERS AND MARINERS.

The *Master* is the agent of the owners, and as such is bound, in all cases, to act with honesty and good faith. It is almost invariable that he has written orders or instructions, embracing the principal part of his duty during the voyage. It is extremely hazardous for him to depart, in the smallest degree, from these instructions, as he will be responsible for every damage which may arise from a wanton and unnecessary departure from them. He should consult them in all cases of doubt or difficulty, and follow them with the most exact precision. There are, however, many permanent duties, which the master is obliged to perform, which are not enumerated in his orders, and which depend upon his own discretion and fidelity; and in respect to these, he must act as if the case were his own, and it is of the utmost importance to his owners, that he act, in in relation to them, in the exercise of a sound discretion. He should never attempt a breach of embargoes, blockades, or other restraints, being in most cases personally responsible, if any damages or loss should ensue.

He should never deviate, without necessity, from the direct course of the voyage; for policies of insurance, on both vessel and cargo, would thereby be vacated. Nothing but unavoidable necessity will justify a deviation.

Pilots. Where the custom of trade has stationed pilots, the master should, upon entering ports, or navigating difficult passages, take one on board, and by no means to proceed without, nor discharge the pilot; except at the customary places. The neglect of this would defeat policies of insurance upon ship and cargo, and render the master and owners liable to the loss which the insured might sustain. The time and place of taking the pilot on board, and the time of discharging him, should be noted upon the log book.

The name pilot, or steersman, is applied either to a particular officer of the ship during the voyage, and having charge of the helm and the ship's route—(an officer not recognised in the usages of our merchant ships,) or to a person taken on board at a particular place, for the purpose of conducting a ship through a river, road or channel, or from or to a particular port.

Pilots of this description only require our attention. They are regularly established at different places for the benefit and convenience of the shipping interest. Masters should acquaint themselves with the regulations upon this subject relating to the particular navigation in which they are employed.

A pilot, while on board, has the absolute and exclusive control of the ship, and is considered as master for the time being. It seems, therefore, that the master of the ship is not liable for any injury happening to another vessel by the fault or negligence of the pilot;—at least, if he be not on board at the time of the injury. But the owner of the ship is, in such case, liable, although the pilot be appointed by public authority. And a suit in the Admiralty lies to recover the damages.

A master, upon his first arrival at any port, should inform himself of all port laws and regulations, which he must scrupulously and carefully observe. All damages which may ensue upon a breach of them will eventually fall upon himself. He must carefully observe the same caution with regard to all revenue laws.

Port dues and charges are payable by the master—and his vessel, cables, anchors, &c. may be distrained for the payment.

As the master is the person who has the care and management of the ship, his power and authority are so great, and the trust reposed in him is so important, that the greatest care should be taken in his appointment. Anciently it was almost universally the case that the master was a part owner, but at present this is seldom the case.

The law of some countries requires a previous examination of the person to be employed in this important office; and in others, he is liable to a criminal punishment, if, having undertaken the charge, he is found incompetent to the performance of it.—With us, the owners are left to their own discretion as to the skill and honesty of the master; and, although he is bound to make good any damage which may happen to the ship or cargo by his negligence or unskilfulness, if he is of ability so to do, yet he cannot be punished criminally for mere incompetence.

Master's authority as to the employment of the Ship. There are two species of contracts under which ships are employed. 1st. The contract by which an entire ship, or at least the principal part thereof, is let for a determined voyage to one or more places. This is usually done by the well-known instrument called a *charter party.*

2d. The contract, by which the master or owners of a ship for a destined voyage, engage, separately, with a number of persons, unconnected with each other, to convey their respective goods to the place of the ship's destination. A ship thus employed is usually called a *general* ship. The owners are bound by every lawful contract made by the master relative to the usual employment of the ship, and this because they employ the ship, and receive the profits of that employment. A part owner, who dissents from the employment of the ship, as mentioned heretofore, is not bound, because he does not employ the ship for the voyage, as has been already stated.

The usual employment of the ship is evidence of authority given to the master by the owners to enter into, and make for them contracts relating to such employment; and, consequently, a contract made by him, is considered in law as made by them.

It is true that the master himself is also liable upon his own contract; for in favor of commerce the law will not *compel* the merchant to seek after the owners and sue them, although it gives him power to do it, but leaves him a twofold remedy, against the one, or against the other. But, in pursuing this remedy, care must be taken to describe the defendant according to his real character; for, in a suit brought against a person, as master, where it appeared on trial that he was not master, but owner, the plaintiff failed in his suit. We are to notice that the contracts of the master, which bind the owner, are those which regard the *usual employment* of the ship; but in case where a ship was built for carrying passengers only, or for carrying merchandise only, and employed only in that particular trade, the owners would not be liable for a contract by the master to employ the ship for a different purpose, and in a different trade.

A *Charter party* made by the master, in a foreign port, in the usual course of the ship's employment, and under circumstances which do not afford evidence of fraud; or, when made by him at the ship's home, under circumstances which afford evidence of the assent of the owners, the ship and freight, and indirectly, the owners also, to the amount of the value of the ship and freight, are by the Marine Law bound to the performance.

And it seems to follow, from the doctrine of settled cases, that if the master make a particular engagement, or warranty, relating to the conveyance of merchandise, according to the usual employment of the ship, the owners will be bound by such engagement or warranty, although made without their knowledge. A broker in London had been employed by the master to advertise a ship as a general ship, bound to Hamburgh, and in the printed papers the broker had inserted a clause that the ship was to sail with convoy from the place of rendezvous. There was no evidence either of the assent or dissent of the owners to this warranty, or of their knowledge of it. But there was contradictory evidence upon a question made at the trial, whether the master had forbidden the broker to insert this clause. The jury were instructed, that that point was quite immaterial, for as the broker was employed to advertise the ship, the owners were answerable *to strangers* for his acts, although he had exceeded his authority, and must seek their remedy against him; and the owners were made liable by his warranty.

All this great responsibility, which the laws of commercial states have cast upon owners, for the acts of their master in many cases, have appeared to many, at first view, to be hard; but, setting aside all consideration of the opportunities of fraud and collusion, which would otherwise be afforded, it should be remembered that the master is selected and appointed by the owners, and by their appointment of him they hold him forth to the public as a person of trust and confidence; and if the merchants whom he deceives could not have redress against those who appointed him, they would often have just reason to complain that they suffered irreparable injury, through the negligence or mistake of the owners; for the master is seldom of sufficient ability to make good a loss of any considerable amount.

Masters, authority as to repairs and necessaries. The obligation to which the master may subject the owners to pay charges of repairing the ship, and the prices of stores and provisions for her use, is sometimes *direct*, as it subjects them personally to an action;—sometimes *indirect*, to be prosecuted by a suit against the ship. It is to be remembered, however, that the master *himself* is always personally bound by a contract of this kind, made by him; unless he takes care by express terms to confine the credit to his owners only.

But such contract made by the owners themselves, or under circumstances which show that the credit was given to them alone, gives the creditor no cause of action against the master. *The personal liability of the owners, upon contracts of the master for repairs or necessaries* for the ship, is of the same nature, and rests upon the same principles as those contracts which relate to the *employment* of the ship; for these relate to the means of that employment, and the master appears to all the world as the agent of the owners, in all things which relate to the means of employing the ship, as much as in her actual employment, the business of fitting out, victualling, and manning, being left wholly in his management in places where the owners do not reside, and have no established agent, and frequently also even in the place of their own residence. The master's situation is presumptive evidence of authority from the owners to act for them in these cases, subject indeed to be refuted by proof that another person was actually employed for the purpose, and managed the concern, and that this fact was actually known to the creditor, or of such general notoriety that he cannot be supposed to be, because he ought not to have been ignorant of it.

But to charge the owners upon these contracts of the master, the supplies furnished should be reasonably fit and proper for the occasion—or that money advanced for them should at the time appear to be wanting for that purpose. The contrary, in either case, would furnish a strong presumption of fraud or collusion, on the part of the creditor. And in an action at law, the general rule has been held to be, that the repairer of a ship has his election to sue the master who employs him, or the owners; but if he sues upon a *special promise* from either, the other is discharged.

The creditor, who would charge the owners upon these contracts of the master, is required to prove the necessity of those things which give rise to his demand; because the master is only authorised to subject his owners for *necessaries;* if, therefore, a person trusts him for that which is not necessary, he trusts him for that which is not within the scope of the master's authority to provide. Such is the English doctrine relative to the power of the master to bind his owners by his contracts of this sort, and the same principles are recognised and well established in the United States. The master can hypothecate (or pledge) his vessel, only in case of *necessity*,—such a necessity as that, if he did not take up the money the voyage would be defeated, or at least retarded—and it is held that the master cannot hypothecate while there are *goods of his own, or of his owners on board.*

It seems that where the cargo is freighted, and money is borrowed by the master to pay the export duties, that such sum may be recovered of the owner, under the head of necessaries, more especially if such cargo has been delivered to the owner of the ship. It is apparent from what has been said, that where the master expends money of his own for repairs or necessaries, that he has a right to call upon his owners for repayment.

From the general liability of the master himself, upon all his contracts of this sort, and the necessity of his obtaining supplies for ship's use, arises his right to retain the freight until he has fully paid his expenses and disbursements. He has a lien (or a right of detention) upon the freight for this purpose. And if the master has contracted debts on account of the ship, and he gives notice to the shipper not to pay freight to the owner, and the freight is paid, he may, nevertheless, recover the freight from the shipper, (not exceeding the amount of these debts,) where payment to the owner by the shipper would be in his own wrong. And the master has not only this lien, but he may, as a general creditor, retain the freight against his owners, or their assignee, where the assignment is not made before the freight has been earned, and due notice given to him that he is to pay over to the assignee.

But the master has no lien upon the ship for payment of debts incurred on the ship's account. This was held in England by Lord Ellenborough; but a different doctrine has been held in the District Court of Pennsylvania, in 1806. —It was there determined, that sums paid *abroad* to mariners, or even *here*, by the master, as well as monies advanced in foreign ports for necessaries supplied to the ship on her voyage, are liens on the ship, and she is hypothecated therefor. But the Court gave no opinion as to the effect of such advances at the port of outfit, or where the owners reside. And the Court, upon the ground that the above charges were liens in the hands of the master, directed them to be paid out of certain remnants and surplus, remaining after the sale of the ship, by decree of the Court for payment of mariners' wages.

SECONDLY.—*The master's power to charge the ship, &c. in specie.* By the Roman law, every man who had repaired, or fitted out a ship, or lent money to be employed in those services, had a priority of right over other creditors upon the value of the ship itself, without hypothecation, or any express contract or agreement; and this yet prevails in countries which have adopted the civil law as the basis of their jurisprudence. This privilege exists in France, not only while the ship remains in possession of the owner, but even after a sale to a third person for some period of time, which seems to have been fixed at one year.

But this rule of the civil law has not been adopted in England. A shipwright indeed, who has taken a ship into his own possession to repair, may not be bound to part with the possession, until he is paid for the repairs, any more, than a tailor, smith, or other artificer in regard to the object of his particular trade. But a shipwright, who has once parted with the possession of the ship, or has worked upon her without taking possession—and a tradesman, who has provided cordage, sails, provisions, or other necessaries for a ship, are not preferred to other creditors, and have no particular claim or lien upon the ship for the recovery of their demands. Thus, where a man had furnished sails and other necessaries for the use of a ship in a port in England, and instituted a suit in the Admiralty against the persons who were master and owner at the time of the supply, and also against the ship, a person who had purchased the ship applied to the Court of King's Bench for a prohibition to the Court of Admiralty to stay proceedings against him and the ship, and the prohibition was granted. The language of Lord Chancellor Hardwick, in another case, is as follows: "Certainly, by the maritime law, the master has power to hypothecate both ship and cargo for repairs, &c., during the voyage, which arises from his authority as master, and the necessity thereof during the voyage, without which both ship and cargo would perish; therefore both the maritime law, and the law of this country, admit such a power. But it is different where the ship is in port, within the body of the county, and the contract for repairs is made on land, in England—then the rule of the law of the land must prevail."

It does not appear that it has ever been held in the courts of the U. S. A. that shipwrights, and furnishers of supplies for ships, while in ports of U. S. A. have not a lien on the ships, or the right to admiralty process to recover their dues. No decision appears in the Supreme Court of the United States; but in the District Court of Maryland, after a very learned discussion, *Winchester*, Judge, held that a shipwright by the maritime law has a lien, on the ship for repairs and materials found by him while the ship is in a port of the United States. The legislature of New York have expressly provided that such charges shall constitute a lien where the ships are owned by *persons not resident within the State.*

There is a decision in a Court of Admiralty. An *American* ship was supplied in the river Thames by a London merchant with necessaries for a voyage to Venice, and having performed the voyage, and returned to London, was sold under a decree of the Court in a suit instituted for mariners' wages. After payment of the wages a surplus remained in the registry of the court, the master had returned to America, and died; and the owner was insolvent there. The merchant applied to the court for payment of his demand out of the surplus. In support of the application a distinction was taken between English and foreign ships—and after a consideration of the case cited, and finding one of 1763, (the case of a ship called the Adventure,) where the distinction was recognised, the Judge decreed that payment should be made according to the application. A similar decision in principle has been made in Pennsylvania.

These contracts, by which the master binds the ship, are usually called *Contracts by Bottomry*—the bottom or keel of the ship being taken figuratively to express the whole ship. Sometimes, but inaccurately, money lent in this manner is said to run at *Respondentia*, for that word properly applies to a loan of money upon merchandise laden on board a ship, the repayment whereof is made to depend upon the safe arrival of the merchandise at the destined port. In like manner the repayment of money lent upon bottomry, in general, depends upon the prosperous conclusion of the voyage; and as the lender sustains the hazard of the voyage, he receives, upon its happy termination, a greater price or premium than the rate of interest allowed in ordinary cases. The premium depends wholly upon the contract of the parties, and consequently varies according to the nature of the adventure. As the master may, under certain circumstances, pledge the ship by a bottomry contract—so the owners may, in any case, and they not unfrequently do, in order to raise money for the outfit when circumstances urge them to have recourse to it.

The name of *Bottomry* has been sometimes, incorrectly, applied to a contract by the terms of which the ship itself is not pledged as a security, but the repayment of the money, with a high interest, is made to depend upon the success of the voyage. This is rather a loan upon a particular adventure to be made in a particular ship, than a loan upon the ship; and of course the lender has only the personal security of the borrower. And loans in England have sometimes been made in this manner, and probably, also, with a pledge of the ship itself, to an amount exceeding the value of the borrower's interest in the ship, and such contract is still legal in all cases, except in the case of East India voyages, where certain acts of Parliament, unnecessary to be noticed here, interfere and restrain them. With regard, however, to contracts of this sort, made by the owners themselves in England, before the commencement of the voyage, by the terms of which the ship is pledged as security, the lender has not the same convenient and advantageous remedy by suit in the Admiralty against the ship, as he has in case of hypothecation by the master, for necessaries furnished in a foreign port; and if the contract purport to be either a present assignment of the ship, liable to be defeated on repayment of the money, or a future assignment to take effect only upon failure of such payment, it seems that a compliance with the provisions of the British registry acts is essential to the validity of the contract.

With regard to bonds of this sort, perhaps there is no direct decision in the Supreme Court of the United States, respecting the admiralty jurisdiction; but in the District Court of Maryland, *Winchester*, Judge, sustained the jurisdiction. The case was on a bottomry bond executed by the owner, and hazarded upon a specific voyage; but, *by the default of the owner*, the voyage was never undertaken or accomplished. The report of the case does not show the form of the instrument, but the learned judge was of opinion that it was a good bottomry contract, and that a suit lay in the Admiralty to recover the amount due upon it. He said "the contract on bottomry may be either for a limited time or for a whole voyage; and in both, the lender has the same security, viz. the person of the borrower, *and the thing on which it is loaned;* and he runs the same risk, viz. of a total loss, if his money be effectually hazarded." He distinguished it from a contract of insurance, where the obligation to make good a loss arises only when that loss happens; and says, "the contract of bottomry, on the other hand, implies *an immediate pledge* and security, defeasible on a future event; the insurance contract is a *personal* contract simply; the other *a contract of pledge* as well as of personal security; in cases, therefore, between the insurer and the lender, upon bottomry, the latter is preferred. The very term bottomry imports a hypothecation by the maritime law, and the judge decreed in favor of the libellant.

A contract of hypothecation made by the master, does not, of itself, transfer the property of the ship; but only gives the creditor a privilege or claim upon her to be carried into effect by legal process. This has been recognised in the United States Courts.

The master, by the maritime law of all states, cannot enter into a bottomry contract in the place of the owner's residence, so as to bind the interest of his owners, without their consent. The meaning of the words "place of residence," has given occasion to some questions in France. In England, the whole of England is considered, for this purpose, the residence of an Englishman, at least before the commencement of the voyage; but Ireland has been held a foreign country in the case of an English ship, hypothecated by the master there, in the course of the voyage. And a few years since, the English Court of Admiralty granted its warrant to arrest a ship on a bottomry bond executed at Jersey, for the repairs and outfit, by a person who was both master and owner. In the bond, this person was described as of London, and the ship as of Jersey, and in the result the ship was sold under a decree of the Court. The authority of the Court to hold cognizance of the cause, does not appear to have been disputed. It is believed that there has been no decision upon this point in the American Courts.

With regard to a *foreign country*, the rule appears to be, that the master may, in case of necessity, whether the occasion arises from extraordinary peril or misfortune, or from the ordinary course of the adventure, the master may borrow money at maritime interest, and pledge the ship and freight to be earned for repayment, at the termination of the voyage; and when this is done, the owners are never responsible personally. The remedy of the lender is against the master of the ship. But if the lender does not choose to take the risk of the ship, and will be content not to take maritime interest, there seems no reason why the master should not pledge both the ship and the personal credit of the owner; and in such a case, in the English Chancery, there was a recovery of such a loan in the case of a ship which was captured. There is no settled form of this contract; but, whatever be the form, it must state the occasion of borrowing, the sum, the premium, the ship, the voyage, the risks to be borne by the lender, and the subjection of the ship as security for the payment.

It would be a fraud in the master to attempt to hypothecate the ship for any debt of his own, and the lender would be a party in the fraud; therefore the fairness of the loan may be a subject of inquiry and contest, if justice require it. But if the ship have been in a state of want, and the money fairly advanced to the master to relieve her, his subsequent misapplication of it will not deprive the lender of his remedy.

But if the master have goods of his owner sufficient to meet the necessary expenses, or if the owner have agents or consignees at the place, who have funds, or are bound for this purpose, the master cannot hypothecate; for it is only in case of necessity that he has this power. It has been said that he cannot do it if he have funds of *his own*, and there have been cases where it has been so held; but this doctrine is somewhat questionable. The master's power to hypothecate is not affected by the circumstance of the ship's being chartered; and that the master is appointed by the charterers if necessity require it. As an illustration of the rule, that the master cannot hypothecate for a debt of his own, take this case. The master of a ship being in a foreign port, and having exposed the ship to seizure by a neglect to comply with a regulation of the country, entered into an agreement with a person supposed to possess sufficient influence, to obtain the restitution of the ship, to pay him a very considerable sum of money, with maritime interest, if the restitution should be secured, and the ship should return home in safety; and to secure this, entered into a bottomry bond. The ship was restored, and did safely return home; and a suit was instituted against the ship upon the instrument executed by the master, but it was determined that the ship and owners were not bound by the contract.

If there are several securities of this kind upon the ship, at different periods of the voyage, the latest in point of date is entitled to priority of payment; because the last loan furnished the means of preserving the ship, and without it the former lenders would have lost their loans. Sometimes the value of ship and freight, supposing her to arrive safely at her port of destination, may be insufficient security for the amount of necessary repairs. In such a case, the master, if he cannot otherwise obtain money, may *sell a part of the cargo*, to enable him to convey the residue to the destined port; and it has been lately held, that he may *hypothecate the cargo*, as well as ship and freight. And the master's authority to sell a part, or hypothecate the whole of the cargo, pending the voyage, in case of necessity, has been recognised in New York, by the highest judicial authority of that State; and for such sale, the owner of the ship will be answerable, if the cargo be shipped on freight. But the master's authority so to do is over when the ship has arrived at her port of destination, for the cargo is then, in the judgment of law, in possession of the consignees; and if the master himself be consignee, it makes no difference, because *then* his authority, in the character of master, is at an end. And if he then apply the cargo, or its proceeds, for the necessities of the ship, he is responsible to the owners of the cargo for this appropriation, as for a breach of trust. But the master has no *general* authority to sell the cargo, where the ship is *disabled from prosecuting the voyage;* nor can he acquire any by application to an Admiralty Court.

With regard to the extent to which the master may pledge the ship and freight, there is the following case. The master of a Hamburgh ship, being at Baltimore, and about to sail for Cork, executed a bottomry bond, purporting to bind the ship and freight, in general terms, neither expressly confined to the freight of the present voyage, nor extended to future adventures. The ship sailed to Dublin instead of Cork, and thereby the holder of the bond lost the opportunity of instituting proceedings upon it, at that time, and the freight was accounted for to the owners; though the deviation did not appear to have been made with this view. From Dublin, the ship sailed again to America, and thence to London, at which latter place the holder procured the ship to be sold, under the authority of the Admiralty; and the produce being insufficient to discharge the bond, he petitioned the Court to have the freight of the *last* voyage applied for that purpose. The freight was then in the hands of the agent of the owners. It was objected that the bond only created a lien upon the freight of the existing voyage; but in this case, as the freight of both voyages came to the account of the owners, the Court granted the prayer of the petition; but the Judge, in giving his opinion, observed that he would not be understood as laying down this as a general rule, in all cases, where any *third* party might have become interested in the freight of the subsequent voyage. It has been held in the District Court of Massachusetts, that the master of a chartered ship, appointed by the charterers, may, in cases of necessity, hypothecate the ship in the manner as has been before stated. And the bond may be to the charterers, notwithstanding there is a covenant in the charter-party, that the owner will keep the ship in repair, &c.; for this does not deprive them of the right to secure themselves, by any other means, for any advances made on account of the ship.

Although the ship be well bottomed by the master, it does not follow, that the lender is, in all cases, entitled to maritime interest. If the voyage has not commenced, by the default of the owner, his right to admiralty process is not devested; yet he is not, in ordinary cases, entitled to the maritime interest, for the Court of Admiralty may moderate, at their discretion, the marine interest, in proportion to the actual hazard incurred by the lender. So settled in the District Court in Maryland. So where the ship and cargo have the same owners, and advances are made by a consignee or agent, having funds in his hands, or usually giving credit to the owners, or under circumstances which show that he made the advances upon the personal responsibility of the owner, it was declared, in the same Court, that the marine interest is not to be allowed. So, in New York, it has been held, that the marine interest is not to be allowed, if such consignee has taken an advantage of the party's situation, or diverted the funds in his hands to other objects, which, though consistent with the owner's orders, are not indispensable. And yet, notwithstanding these cases, it is not to be considered that such a consignee may not, under some circumstances, become the valid holder of a bottomry bond. A consignee, not in the habit of dealing with, or crediting the owner, and not having any goods, funds, or security at the time, seems not to be under any obligation to risk his property without the usual and adequate security. A bottomry bond on an enemy's ship is not an interest which is protected on capture. And, therefore, where, in a time of peace, a British merchant had taken a bottomry bond on a French ship, which was captured in a subsequent war, Sir W. Scott held, that the claim on the ship was invalidated by the capture, and at an end. A bottomry bond is preferred to every other claim or privilege for the voyage on which it is founded, except seamen's wages. But this right of preference, or lien, may be lost by negligence or delay, when the interests of *third* persons intervene. The right, therefore, should be followed up with reasonable diligence. When the voyage has not been performed, but the ship has been lost, the right to recover upon the bottomry bond is lost forever, though a compensation, in the nature of salvage, may have subsequently accrued to the owner. Therefore, where the owner of a ship executed a bottomry bond for £300 upon the ship, for a voyage to the West Indies and back, and during the voyage the ship was captured and condemned in a British Court of Vice Admiralty, and the ship was sold, and afterwards the decree of condemnation was reversed in the High Court of Admiralty, and compensation awarded to the owner by the Commissioners, sitting under a treaty between the United States of America and Great Britain; and, after compensation was received by the owner, an action was brought in Massachusetts on the bond, the Supreme Judicial Court of that State held, that the plaintiff had no right to recover upon the bond, the ship having been lost by the perils enumerated in the condition; and that, if any right to recover the amount existed, it must be in another form of action.

BEHAVIOR OF MASTER AND MARINERS.

The great trust reposed by the owners, and the authority vested, by the law, in the master, require, on his part, as well for his own sake as for the interest of his employers, the utmost attention and fidelity, because he is personally responsible for any injury arising from his misconduct or negligence; and although the merchant may choose to sue the owners, yet they will have their remedy against the master, to make good the damages which they may be compelled to pay. So, if the master make any particular engagement or warranty, without sufficient authority from his owners, although the owners may be answerable for his contract, yet he is responsible to the owners for having acted in violation of, or beyond the authority given to him. This doctrine has been fully recognised in the United States Courts. The owners are answerable for damages done by their ship to another, through negligence; and this, though the ship be chartered to Commissioners of the Navy, and a Navy Officer be on board and have the command. The Court have declared it a wrong position, that the master is not answerable for an error in judgment, but only for the fault of the heart, in civil matters. Reasonable care, attention, prudence, and fidelity, are expected from the master; and if any misfortune or mischief arises from the want of them, either in himself or his mariners, he is answerable in a civil action. And damages may be recovered against the owners for the wrongs of the master; and by the owners against the master, in the admiralty, as well as in the common law courts.

The owners may, at their pleasure, dismiss the master; and upon a general engagement, for no particular voyage, they may dismiss him without cause assigned. But if he be engaged for a particular voyage, and has signed bills of lading, &c., the master may maintain an action for a wrongful dismission, an decover damages proportionate to the injury. And a Court of Admiralty may dismiss a master, although part owner, upon the application of a majority of the owners in interest. It is impossible to frame any general rules, competent to enforce the performance of all the civil obligations of a master of a ship; and the English legislature, as well as ours, have prudently declined the attempt, and, in most cases, wisely left the subject under the operation of common law principles. All countries, however, have established some rules. There are some provisions of Acts of Congress of the United States of America, which require notice and attention. There are statutes for the regulation of seamen employed in the merchant service, and in the coasting trade and fisheries. These regulations apply to ships bound to a foreign port, and to ships of fifty tons and upwards, employed in the coasting trade, from one port to another, other than an adjoining State, and to ships of twenty tons, and upwards, employed in the fisheries. One of these acts, which is usually printed upon the back of the shipping-paper of merchant ships, provides, that in voyages to a foreign port, from the United States, and in coasting voyages to any other than an adjoining State, the contract for service on board must be made in writing, or in print, by the master with the mariners;—and that if, after entering into such an agreement, a mariner does not render himself on board, or deserts, so that the ship proceeds to sea without him, he forfeits a sum equal to the advance wages paid him, over and beside such advance wages.—And a Justice of the Peace may, upon complaint of the master, issue a warrant to apprehend a deserting mariner, and may commit him to the house of correction, or common jail, there to remain until the ship is ready to sail on her voyage, and then cause him to be delivered to the master. Absence, without leave, after the time agreed on for the mariner to render himself on board, subjects the offender to a forfeiture of one day's pay for each hour of such absence. Absence, during the voyage, without leave, for less than forty-eight hours, subjects the offender to a forfeiture of three days' pay for each day's absence;—and absence, exceeding forty-eight hours, subjects such offender to a forfeiture of all his wages, and all his goods and chattels on board, or in any store where they may have been lodged, at the time of such desertion, and moreover subjects him to pay the owner damages, occasioned by hiring another mariner. Fishermen are liable to like penalties for desertion, and may, in like manner, be apprehended by a Justice of the Peace, as mariners in the merchant's service. Fishing contracts must be in writing, signed by the skipper and fishermen, and countersigned by the owner. The penalty of not complying with the act, in this particular, is a forfeiture of the bounty.

If a ship, bound on a foreign voyage, after the voyage is begun, and before leaving land, is found to be leaky, or unfit in her crew or equipments to proceed on the voyage, the mate or chief officer, and a majority of the crew, may require the ship to stop at the first convenient port, and have the ship surveyed, and, if necessary, fully equipped and fully repaired under the direction of the District Judge, or a Justice of the Peace. Every ship of 150 tons and upwards, navigated by ten or more persons, and bound on a foreign voyage, is required to be provided with a medicine chest for the use of the crew, under the penalty of the master's paying for all advice, medicine, and attendance of physicians, which any of the crew may stand in need of, in case of sickness.

Ships bound on a voyage across the Atlantic shall, at the last port from whence they sail, have on board, under deck, at least 60 gallons of water, 100 lbs. of salted flesh meat, and 100 lbs. of wholesome ship-bread, for every person on board the ship, over and besides such other provisions, stores and live stock, as shall, by the master or passengers, be put on board; and in like proportion for shorter and longer voyages, on penalty of the master to pay to each of the crew one day's wages beyond the wages agreed on for each day that they shall be put upon short allowance, to be recovered in the same manner as their stipulated wages. But where, in the course of the voyage, these articles cannot be obtained, their equivalent, in quantity and quality, should be obtained; and, in such case, the rations allowed in the United States' service seems a proper rule. And the compensation for short allowance, will be made to mariners, who, in the course of the voyage, *ship at a foreign port.*

A later Act of Congress provides for a medicine chest to every vessel of 75 tons, navigated by six persons in the whole, and bound from the United States to the West Indies.

It is now the usage to print several Acts of Congress, relative to merchant ships and others, upon the back of the shipping-paper. These should be carefully examined and considered by the master, as he may find important advantages from it, in cases of doubt or difficulty, in relation to their subject matter.

The master has authority over all the mariners on board, at common law, and it is their duty to obey his commands in all lawful matters, relating to the navigation of the ship, and the preservation of good order; and such obedience *they expressly promise* to yield him by the agreement in the shipping-paper. The master may lawfully correct them for disobedient or disorderly conduct in a *reasonable* manner. His authority, in this respect, is similar to that of a parent over his child, or of a master over his apprentice or scholar. Such an authority is absolutely necessary to the safety of the ship, and of the lives of the persons on board. The master, however, should be very careful in the exercise of this power, and not make it a pretext for cruelty and oppression. The French ordinance specifies certain particular modes of punishment, which the master may inflict on drunken and disobedient mariners, and those who ill treat their comrades, or commit other like faults, in the course of the voyage; but it required the consent of the steersman and mate. By the English law, such consent is not necessary. And there are cases which demand the *immediate*, perhaps *instantaneous* interposition of the master. But, except in such cases, it would, perhaps, be always prudent in the master to take the advice of persons next below him in authority, as well to prevent the operation of passion in his own breast, as to secure witnesses of his conduct, to show that he was not under the dominion of too much anger, but coolly discharging a duty; and that, in case he should be sued by the mariner after his return, he may be able to show that there was a sufficient cause for chastisement, and that the chastisement inflicted was reasonable, and not immoderate, but proportioned to the offence, and necessary to the preservation of his lawful authority, and the safe management of the affairs of the ship. But if the master strike a mariner without cause, he will be answerable for an assault and battery. If he use a deadly weapon as an instrument of correction, where moderate chastisement may be inflicted, and death ensue, he will be guilty of murder or manslaughter, according to the circumstances of the case. If there be actual and open mutiny by the crew, or any part of them, the resistance of the master becomes an act of self-defence; and it is to be considered in all its consequences, in that point of view. The ordinances of Oleron declare that if a mariner strike the master, he shall either pay a fine or lose his right hand. A strange and cruel alternative, unknown in our modern jurisprudence. The foregoing doctrines have been fully recognised, in many cases, by Courts in the United States. It has also been held that the master may correct the offending mariner by imprisonment on board the ship for a reasonable time, and even by imprisonment in a guard-ship, or common jail, in a foreign port, if such punishment be according to the custom of the port, or be required by circumstances. The master should observe a temperate demeanor and decent conduct towards seamen, while he preserves a proper and prudent deportment, avoiding familiarity, and keeping them at their proper distance and subordination. He risks the consequences if he commences a dispute with illegal conduct and improper behavior. The laws, though often applied to for this purpose, do not encourage or gratify revenge, they only punish for reformation or example. And reformation or example, should be the principal object of the master in punishing the mariners under his command. The master may by force restrain the commission of great *crimes*, yet he has no judicial authority to punish the criminal; but he ought to secure his person, and cause him to be brought before a proper tribunal of his country. In general the master may for misbehavior discharge a mariner from his service in the ship. This has been frequently recognised in the District Courts of the United States; but it must be for aggravated misbehavior; for slight and venal offences will not warrant it. If a mariner be incorrigibly disobedient and mutinous, and persist in such ill conduct;—if he be guilty of crimes, or gross dishonesty—if he become incapacitated to perform his duty by his own misconduct, he may be discharged. But if he have been disobedient and mutinous, and repent, and offer to make satisfaction, and return to his duty, the master is bound to receive him. If the master will not, in such case, receive, and reinstate him, but discharges him, the maritime laws declare that he may follow the ship and recover his wages for the whole voyage. And if a master wrongfully discharge a mariner, he is liable to answer for it in damages. The same law applies to the mate and subordinate officers as to the mariners.

When a ship is sold in a foreign country, and the crew discharged, and when a mariner, a citizen of the United States, is, *with his own consent*, discharged in a foreign country, the master must pay into the hands of the American consul or agent at the port of discharge, for every mariner so discharged, three months' pay, over and besides his wages, two thirds thereof to be paid by the consul or agent to the mariner so discharged, upon his engagement on board any ship to return to the United States, and the other third to be retained for the purpose of creating a fund for the passage of mariners, citizens of U. S. A. desirous of returning thereto, and for the maintenance of American mariners, who are destitute at such foreign port.

Barratry.—This is a term used by foreign writers, as well as those of our own country, and is generally understood to mean a fraudulent act of the master, or mariners, committed to the prejudice of the owners of the ship. In France it is often used in a more enlarged sense, comprehending acts of mere ignorance or unskilfulness, and not accompanied with any fraudulent design.

But in England, and with us, *Barratry* is thus defined: *a fraudulent breach of duty by the master, with respect to his owners; or, in other words, it is a breach of duty, in respect to his owners, with a criminal or malicious intent.* And it makes no difference in the reason of the thing, whether the prejudice suffered by the owner arise from an act of the master, induced by motives of advantage to himself, malice to the owner, or a disregard of those laws which it was the master's duty to obey, and which (or it would not be barratry) the owners relied upon his observing. Therefore, where a ship was lost in consequence of an illegal act of the master, not authorised by the owner, in going to an enemy's port, and there carrying on trade, this conduct of the master was barratry. So, if the master sail out of a port without paying duties, whereby the goods were forfeited, lost or spoiled, this is barratry. So, sailing out of a port in breach of an embargo. So, cruising under letters of marque which were taken on board without an intention of being used for that purpose. So, resistance of the right of search by the master of a neutral ship. The criminal intent of the master is the very essence of barratry;—mere negligence does not amount to it; therefore, a deviation through mere ignorance is not barratry. Where a master sailed with his ship from a port in pursuit of another ship, which was run away with, for which he was to receive £100, and was gone eight days, and afterwards the ship was lost. It appearing that the master did not undertake this expedition for his own benefit, the Court were of opinion that his conduct amounted to a mere deviation, and not to barratry. When the fraudulent act is done by the master the law presumes it to be done for his own benefit. The proof of the contrary rests upon him. In England provision is made by Acts of Parliament to punish as felony, the offences of wilfully burning, destroying, or casting away ships. In the United States, also, Congress have provided by law, that any person, not being an owner, who shall, on the high seas, corruptly and wilfully cast away, burn or destroy any ship or other vessel, to which he belongeth, being the property of any citizen or citizens of the United States of America, or procure the same to be done, and being convicted thereof, shall suffer death. And, also, that if any person shall, upon the high seas, wilfully and corruptly cast away, burn, or otherwise destroy, any ship or vessel of which he is the owner, in part, or in whole; or in any wise direct and procure the same to be done, with intent or design to prejudice any person or persons that hath underwritten, or shall underwrite any policy or policies of insurance thereon; or of any merchant or merchants, who shall load goods thereon; or of any other owner or owners of such ship or vessel,—the person or persons offending therein, being thereof convicted, shall suffer death. In the construction of this Act, it has been held, in the Circuit Court of the United States of America, that to *destroy* a vessel is to unfit her for service beyond the hopes of recovery by ordinary means. This, in extent of injury, is synonymous with *cast away.* It is the general term—casting away is a species of destroying, as *burning* is. Both mean such an act as causes the vessel to perish, or be lost, so as to be irrecoverable by ordinary means.

By an act of Congress of U. S. A. if any person or persons shall commit, upon the high seas, or in any river, bason, or bay, out of the jurisdiction of any particular State, murder, robbery, or any other offence, which, if committed within the body of a county, would by the laws of U. S. A. be punishable with death—or if any captain, or mariner of any ship or other vessel, shall piratically, or feloniously, run away with such ship or vessel, or any goods or merchandise to the value of fifty dollars, or yield up such ship or vessel voluntarily to any pirate—or if any seaman shall lay violent hands upon his commander, thereby to hinder and prevent his fighting in defence of his ship, or goods committed to his trust; or shall make any revolt in the ship, every such offender shall be deemed, taken and adjudged a pirate and a felon, and being thereof convicted, shall suffer death. And if any seaman or other person shall commit manslaughter upon the high seas, or confederate, or attempt, or endeavor to corrupt any commander, master, officer or mariner, to yield up, or run away with any ship or vessel, or with any goods, wares, or merchandise, or to turn pirate, or to go over to, or confederate with pirates—or in anywise trade with any pirate, knowing him to be such—or shall furnish such pirate with any ammunition, stores, or provisions of any kind—or shall fit out any vessel, knowingly, and with a design to trade with, or supply, or correspond with any pirate, or robber, upon the high seas—or if any person or persons shall any ways consult, combine, confederate or correspond with any pirate or robber, on the seas, knowing him to be guilty of any such piracy or robbery—or if any seaman shall confine the master of any ship, or other vessel, or endeavor to make a revolt in such ship,—such person or persons so offending, and being thereof convicted, shall be imprisoned not exceeding three years, and fined not exceeding one thousand dollars.

The United States have not been insensible of the sound policy of relieving and protecting their mariners. By several acts they have provided for the *relief and protection* of such as are indigent and distressed in *foreign countries*, by their consuls and public agents, who are authorised, and required to afford them suitable aid.

So, by several acts, provision is made *at home*, for the temporary maintenance and relief of sick and disabled seamen, belonging to the navy, or to the merchant service, or coasting trade of U. S. A. and twenty cents per month are deducted from the wages of every seaman, so employed, to provide a suitable fund for this purpose. This fund is under the direction and management of the President of the U. S. A. and of directors by him appointed.

By the ancient marine ordinances, if a mariner falls sick during the voyage, or is hurt in the performance of his duty, he is to be cured at the expense of the ship; but not if he receives an injury in the pursuit of his own private concerns—nor if the sickness or disability is owing to vicious or unjustifiable conduct. In one case, Judge Peters seems to have considered that the cure is not to be at the expense of the ship, except when he is disabled on *actual* duty;—and that when he is taken sick, or accidentally disabled, while in service, (owing to no misconduct,) he is not to be cured at the expense of the ship; but this was not expressly so decided; and as to the case of sickness, the doctrine is contrary to the laws of Oleron. Judge Peters seems, very reluctantly, to have held, that where a medicine chest is provided according to law, the seamen must pay for surgical and medical advice and attendance, and says,—"I have not been perfectly satisfied that the seamen should pay the bill for medical advice, which, to complete the intention of the law, should be a charge upon the ship; but finding the weight of authority that way, I have yielded." Whether this opinion may be considered sound or not, it may here be added, that the same Judge seems to have held *generally*, that the medicine and nursing of the sick seamen, and even his board on shore, where circumstances required it, were charges upon the ship—and this is in conformity to the laws of Oleron.

By an act of Congress of 1803, the consuls or other agents of U. S. A. at foreign ports, shall provide subsistence and passages to the U. S. A., for destitute American seamen, in a reasonable manner, at the expense of U. S. A.; and masters of ships are thereby required, under penalty of $100, to take on board, at the request of such consuls or agents, at a price not exceeding ten dollars for each person, two seamen for every one hundred tons burthen of the ship, and transport them to U. S. A., and the seamen so put on board shall, if able, do duty during the voyage.

CONTRACT BY CHARTER-PARTY.

This is a contract by which an entire ship, or some principal part thereof, is let to a merchant for the conveyance of goods on a determined voyage, to one or more places. A ship may be let for other purposes; as to be employed in warfare, in coasting, fishing, or other trade. The instrument called the Charter-Party, when the ship is let at the owner's residence, is generally executed by the owners, or some of them, (and frequently by the master also,) and by the merchant or his agent. In a foreign port, it must, of necessity, be executed by the master only, and by the merchant or his agent, unless the parties have an agent resident in such port, authorised by deed, or letter of attorney, under seal. The execution of this instrument by the master, although said to be done on behalf of the owners, does not furnish a ground of action against them *upon the instrument itself*, on account of a technical objection in the law; because the instrument, or deed, under seal, is not executed by them, or by another authorised *by deed*, under hand and seal, so to do. But the parties are not without a sufficient remedy. The agent, indeed, does sometimes enter into covenants *in his own name*, and thus binds himself to answer for his principal's default.

By this contract, a ship is let for a voyage to one or more places—the freight is expressed at a sum of money for the entire ship, or an entire part of the ship—or for each ton or other portion of her capacity;—and this sum is, again, either a gross sum, for the whole voyage, or a particular sum for every month or week. Sometimes, it is expressed at so much for every ton, cask or bale—in which case, the merchant usually covenants not to ship less than a stipulated amount in quantity. The merchant, who has so hired the ship, may lade either his own goods, or the goods of others, if he has not sufficient, or he may underlet the whole ship;—but sometimes this is provided against in the charter-party. The instrument usually expresses the burthen of the ship, and it is advisable that it should, to prevent disputes afterwards. If a ship be freighted as of 200 tons, more or less—the import, says Molloy, will be confined to *five tons*, more or less. This contract is varied, according to the meaning of the parties, and the nature of the voyage; but the usual stipulations on the part of the owners, or master, are, that the ship shall be tight and staunch, and furnished with all necessaries for the voyage, be ready, by a day appointed, to receive the cargo, and wait a certain number of days to take it on board—that after lading she shall sail, with the first fair wind and opportunity, to the destined port, (dangers of the seas excepted,) and there deliver the goods to the merchant or his assigns, in like good order and condition as when received on board; and further, that the ship shall, during the course of the voyage, be kept tight and staunch, and furnished with sufficient men, and other necessaries, *to the best of the owner's endeavors*. But it seems that the covenant, that the ship shall be tight and staunch, and equipped for the voyage, is not a condition precedent to the recovery of freight, and if the ship has been actually employed by the charterer, the freight becomes payable; but if, in consequence of the owner's neglect, the charterer has been prevented from any use of the ship, this is a bar to any action for freight, because the consideration of the covenant to pay freight, *wholly* fails. However, in the first cases, the charterer is entitled to recover damages, for any injury sustained, by the neglect of the owners to keep the ship tight and strong. And as the ship is liable to damage in the course of the voyage, and repairs may become necessary, it seems that if the hire be by the month, freight does not cease to accrue during the time exhausted in making those repairs; at least, if there be not neglect and delay on the part of the owner. Nor does a covenant to load a complete cargo for the freighter or charterer, at a specified rate, for hemp, iron, &c., and therewith proceed on the voyage, constitute a condition precedent to a recovery for the delivery of a *short* cargo, but the remedy is for damages upon the contract. And in such action, a well-grounded apprehension of a hostile embargo is no defence to the master or owner. These doctrines were settled in the Supreme Judicial Court in Massachusetts, which Court have also held, in the case of *Putnam* vs. *Wood*, that it is the duty of the owner, when he charters his ship, or puts her up for freight, to see that she is in a suitable condition to transport her cargo in safety; and he is to keep her in that condition, unless prevented by the perils of the seas, or unavoidable accidents. If the goods are lost by any defect in the vessel, visible or otherwise, known or unknown, the owner is answerable to the freighter. If, therefore, during the voyage, the vessel meets with an accident, it is the duty of the owner to see that she is put in repair, at the next convenient port;—otherwise he must abide the loss, for it is of the essence of his contract that the vessel shall be able to receive, retain, and transport the cargo.

The owner may, and sometimes does, by special clauses, make himself still further answerable, in case of accidents or misfortunes, which otherwise would furnish him with an excuse.

The *merchant* usually covenants to load and unload the ship within a limited number of days after she shall be ready to receive the cargo, and after her arrival at the destined port; and to pay the freight in the manner appointed. It is usual, also, for each party to bind himself, his heirs and executors,—and the owner or master, the ship and her freight;—and the merchant, the cargo to be laden, in a pecuniary penalty, for the true performance of their respective covenants. Frequently, it has been stipulated, that the ship shall, if required, wait a further time, to load and unload, or to sail with convoy, for which the merchant covenants to pay a daily sum. This delay, and the payment to be made for it, are both called *demurrage.* Sometimes there are particular stipulations in favor of the owners, to take away their responsibility for the embezzlement of the master, or other matters, for which they would otherwise be liable.

But although, as mentioned above, it is usually expressed, that the ship and freight are bound to the performance of the covenants on the part of the owners, and this is conformable to the marine law; yet there does not appear to be, at present, any mode of obtaining the benefit of the security of the ship itself, in specie, for a breach of these covenants. Neither can the owners, in all cases, have the full benefit of the clause by which the cargo is expressed to be bound for the payment of the freight. The following case is in point. Two persons, who were factors, hired a ship of one Paul, at the rate of £48 per month, and executed a charter-party, by which the goods to be put on board, were made liable; and they had power to appoint the master and mariners. Some West India merchants loaded the ship, and allowed the factors £9 per ton for the carriage. The factors, who had chartered the vessel in their own names, became bankrupts. Paul instituted a suit in Chancery, to compel the merchants to pay the freight of the ship, insisting that they were liable, by the clause in the charter-party. But Lord Chancellor Hardwick decided, that Paul should recover no more than the merchants had engaged to pay the factors for the freight. "A person," said his Lordship, "who lets out a ship to hire, ought to take care that the hirer is a substantial man. It is his business to look to this; and if the persons, who hire, are not competent, the master must suffer for the neglect. Whatever hardship there may be on the one hand, to the person who lets out to hire, the hardship is much greater on the other side; and what gives additional weight to the merchant's case, is, the great convenience this gives to trade in general.

In all maritime transactions expedition is of the utmost importance, for by a short delay the season or object of a voyage may be lost. If either party is not ready by the time appointed for loading the ship, the other may seek another ship, or cargo, and have his action for damages sustained. Molloy says, that even if part of the lading is put aboard, and the merchant cannot furnish the residue, the owner may annul the contract, and lade his ship with other goods; but that it is by no means prudent so to do. It is apprehended that this author, who speaks here of a covenant to furnish an entire lading, must be understood to speak of a part insufficient in value to answer the freight to be paid; for, if goods of the merchant who hires the ship, sufficient in value to answer the freight, are put on board, it seems reasonable that the merchant, upon whom the loss of the deficiency will fall, should have the right to take the loss upon himself, and order the ship to sail.—And in such case, by the French ordinance, if a whole ship be chartered, and the merchant do not furnish a full lading, yet the master shall not, without the merchant's consent, take in other goods to complete the lading, nor without accounting to him for the freight—which is consonant to the principles of general law. The merchant may sustain loss by such other shipment; it may overcharge the market, or otherwise subject him to loss or inconvenience. But as the lading is the owner's best security for the payment of freight,—if goods sufficient to answer the freight are not put on board, and the merchant is known or reasonably suspected to have become insolvent, the owner will run no risk of damages by annulling the contract, or taking other goods to secure his freight, which, if it can be done, is the better method.

Which party is to do the first act, in a mercantile transaction, is sometimes a question. The following is a case to this point. The plaintiff and defendant agreed to enter into copartnership, for the purpose of making four shipments to Buenos Ayres. The plaintiff, among other things, covenanted to transfer to the partnership all his powers under a royal license, (which he had obtained,) to send four American ships to Buenos Ayres, to be laden with lawful goods, to be chosen, to the amount of $15,000 for each vessel, by the plaintiff, and not above $25,000 at the first cost, the *funds and vessel to be furnished by the defendant*. The plaintiff also bound himself to make choice of the articles, or to send samples, if necessary. The defendant agreed, that, within a month from the date of the contract, the first expedition should proceed from Boston, and the three others successively, with the interval of a month; and in case of default in sending the expedition in due time, the contract as to that expedition was to be void. In an action of covenant, the plaintiff alleged, as breaches by the defendant, that he did not furnish the vessels to be loaded at Boston, and that the first vessel did not sail from Boston within a month. The defendant pleaded, among other things, that the plaintiff did not choose or select the goods necessary for the first voyage, and the Court held this plea insufficient; for the selecting the goods was not a condition *precedent*, and that, *in order of time*, the defendant was bound to do the *first* act, to wit, provide a vessel.

A charter-party, like every other deed, *takes its effect* and operation from the day it is sealed and delivered, and not from the day of the date, if different from that of the delivery, unless the instrument itself import that its effect shall be from the day of the date.

The word *days*, used alone, in a clause of demurrage, for unlading in the river Thames, is said, by the usage among merchants in London, to be understood of working days only, and not to comprehend Sundays and holydays. It is best always to mention *working* or *running* days, expressly, according to the intention of the parties. The payment of *demurrage*, stipulated to be made while a ship is waiting for *convoy*, ceases as soon as the convoy is ready to depart, and such payment, stipulated to be made while a ship is waiting to receive a *cargo*, ceases when the ship is fully laden, and the necessary clearances are obtained, although the ship may happen to be further detained by adverse winds or tempestuous weather. And if the ship has once set sail and departed, but is afterwards driven back into port, the claim of demurrage is not thereby revived. In a certain case, the time for the ship's waiting to receive a cargo was limited to fifty running days, with permission to the freighter to keep her a further time, upon payment of £5 per day, and the owner claimed demurrage for 20 days, while the ship was waiting to deliver the goods in the London Dock, the period of fifty days having been, in the whole, exceeded. The defence was, that the freighter, intending to bond and warehouse the goods, had done all that was necessary on his part for that purpose, and that the Dock Company had delayed to land and warehouse them. But the Court held the freighter answerable for the delay, as it would not have happened if he had thought fit to discharge the duties instead of giving security for the payment.

The contract by charter-party is generally of that sort which the lawyers call reciprocal; that is, mutually obligatory upon each party; but the parties may, by particular clauses, make it obligatory upon one and optional to the other. There are certain clauses in charter-parties, which are peculiar to the English East India Company, which cannot come within the limits of this work, and must therefore be passed over.

The construction of charter-parties is to be conformable to the *usages of trade.* Accordingly, Lord Kenyon held, in an action upon a charter-party, which stipulated that the merchant shall have the exclusive use of the ship outward, and the exclusive privilege of the cabin, the master not being allowed to take any passengers. At the trial the defendants insisted, that, under a charter-party, so worded, it was the constant usage of trade to allow the master to take out a few articles for a private trade. His Lordship allowed evidence to be offered to prove such usage; observing, that, although the instrument seemed to exclude the privilege, yet he considered that it might be explained by uniform and constant usage, the usage being a tacit exception out of the deed. But although the words of a charter-party may receive a liberal construction, yet the construction must not be inconsistent with their plain and obvious meaning, as in this case. A ship, under a charter-party, was to sail from *London* to join convoy, and thence to proceed to *Barcelona*, and there deliver her cargo; and 41 running days were to be allowed to wait at *Portsmouth* for convoy, and to discharge her cargo at *Barcelona;* the said 41 days to be accounted and commence at *Portsmouth*, 24 *hours* after her arrival there, and at Barcelona the day the ship should be ready to deliver her cargo, and for all the time beyond the *forty-one* days, thirteen shillings per ton were to be allowed for demurrage. Lord Kenyon held, that the demurrage was payable only for delay beyond the forty-one days in waiting for convoy at *Portsmouth*, and in discharging the cargo at *Barcelona*, and not for delays which the ship had experienced in waiting for convoy at *Falmouth*, to which place she was ordered to proceed from *Portsmouth*, by the Admiral's Secretary, and at *Gibraltar Bay*, into which she sailed under the direction of one of the sloops appointed to convoy the fleet, the rest having been dispersed in a storm, and where she waited *twelve* days for convoy, to proceed to *Barcelona.*

Demurrage is never payable unless expressly stipulated. Therefore, where, in a contract for affreightment it was agreed that the ship should lay in Surinam thirty-five days to unload and reload, and the ship staid the thirty-five days, and the return cargo not being ready, she staid *twenty days longer*, at the request of the agent and consignee of the defendant, but who had no control over the ship. In an action to recover the demurrage of twenty days, it was held not recoverable, because there was no *express* stipulation for it; and no implied promise could arise from the act of the consignee, who was not authorised to bind the defendant to pay it. This was a New York case. When goods are put on board, in pursuance of a charter-party, the captain is to sign bills of lading for them. The charter-party is the evidence of the contract for the conveyance; and the bill of lading the evidence of the shipment of the particular merchandise to be conveyed, in pursuance of such contract. But where there is a charter-party with the freighter, signed by the owners, no action lies against them on the bill of lading signed by the master; for the express contract, under seal, in respect to the same subject matter, precludes it; but it might be otherwise if they signed the bills of lading themselves.

THE CONTRACT FOR CONVEYANCE IN A GENERAL SHIP.

The contract for the conveyance of goods in a *general* ship, is that by which the master and owners of a ship, destined on a particular voyage, engage, separately, with various merchants, unconnected with each other, to convey their respective goods to the place of the ship's destination. Although the contract is equally made with the master, the owners also are bound to the performance of it.

When a ship is intended to be thus employed, it is usual to give public notice of it, by printed papers and cards, and otherwise, mentioning the name and destination of the ship, her burthen, and sometimes her force, and sometimes expressing also that she is to sail with convoy, or with the first convoy, or other matters relating thereto. Such an expression is an assurance or warranty to the merchant, and it becomes a part of the contract with him, although it be not afterwards contained in the bill of lading.

When goods are sent on board, the master, or other person acting for him, usually gives a receipt for them, and the master afterwards signs and delivers sometimes two, sometimes three, parts of a bill of lading; of which the merchant commonly sends one or two to his agent, factor, or other person to whom the goods are to be delivered at the place of destination; that is, one by the ship with the goods, another by post or other conveyance, and one he retains for his own security. The master should always take care to have another part for his own use.

The master should be particularly careful what his advertisements or his agents say or represent, concerning his ship; for, whatever is represented by advertisements of any kind, or is said by his agents, whether authorised by him or not, provided they are his authorised agents, will bind both him and his owners, as it respects merchants who are misled by such representations. And the owner is bound by the representations made by the master, although without authority, when *third* persons are thereby injured or deceived. The master to be sure, in such case, is answerable to the owners, but the public have nothing to do with that question.

If there is a dispute about the *quantity* or the *condition of the goods*, or if the contents of casks or bales are unknown, the words of the bill of lading should be varied accordingly.

By the French ordinance it is required that bills of lading should contain the quantity and marks of the merchandise, the name of the merchant who loads them, and of the person to whom they are to be delivered, the plans of departure and destination, the names of the master and the ship, and the price of the freight. It is obvious that the quality, and frequently the quantity of the goods must be unknown to the master; and the commentator upon the ordinance informs us, that by the quality, the *exterior and apparent quality* only is meant; and further, that it is usual for the master to insert words denoting that the quality and quantity are only according to the representation of the merchant; of which practice he approves, and mentions two disputes decided in favor of the master in consequence of this precaution. If goods are put on board a ship, without the knowledge or consent of the master, there is no contract for their conveyance; but, nevertheless, the master, upon delivery of them, will be entitled to the usual freight.

GENERAL DUTIES OF MASTER AND OWNERS IN CONTRACTS TO CONVEY MERCHANDISE.

It is the duty of the owner, when he charters his ship or puts her up for freight, to see that she is in a suitable condition to transport her cargo with safety; and he is to keep her in that condition during the voyage, unless prevented by the dangers of the seas or unavoidable accidents. If the goods are lost by reason of any defect in the vessel, whether apparent or hidden, whether known or unknown, the owner is accountable to the freighter; because there is an implied contract that the vessel shall be fit for the use in which he employs her. This principle governs in all charter-parties as well as in policies of insurance and in contracts of affreightment. If, therefore, during the voyage, the ship meets with an accident, it is the duty of the owner to see that she is put into complete repair at the next convenient port; for, if he does not, he must abide the loss; for it is of the essence of the contract, that his vessel shall be able to receive, retain, and transport her cargo.

It may be noticed here, that there is an English case, where a *common carrier* had given notice that "he would not be accountable for goods to the value of more than $500, (if lost,) unless insured, and paid for at the time of delivery, and demanded in one month after such damage had been sustained." The validity of such notice was questioned, as contrary to the policy of the common law, which has made common carriers answerable for all losses, except those occasioned by the act of God, or of the king's enemies; and the Court, in giving judgment, declared, that considering the length of time during which, and the extent and universality in which, the practice of making such special acceptances of goods for carriage, by land, and by water, had prevailed in the kingdom, under the observation and with the allowance of courts of justice, and with the sanction also and countenance of the legislature, which is known to have rejected a bill brought in for the purpose of narrowing the responsibility of carriers, in certain cases, on the ground that carriers might limit their responsibility by special contract; and considering that there is no case in the books in which the right of a carrier thus to limit his responsibility has ever been, by express decision denied, they could not do otherwise than sustain such right in the present instance, however liable to be abused and productive of inconvenience it might be, leaving the legislature to remedy the evil when it should be required. No American case to this point is known,—and no practice of common carriers giving similar notice is known to exist among us; of course the special reasons assigned as having some operation in the minds of the Court, in that case, have had no existence among us. Another English principle having some bearing upon this subject, seems to be more clear. Where a common carrier gives notice to his customers that he will not be accountable for any parcel of more than £5 value, unless entered as such, and paid for accordingly; if a parcel be sent, above that value, without being entered, and paid for as such, and it be lost, the owner of it cannot recover any thing of the carrier.

Not only must the ship and her furniture be sufficient for the voyage, but she must also be furnished with an adequate number of persons, of competent skill and ability to navigate her. For sailing down rivers, into and out of harbors, or through roads, &c. where law or usage requires it, a pilot must be taken on board. This has been recognised in American courts also.

The manner of taking goods on board, and the commencement of the master's duty in this respect, depend upon the custom of the place. More or less is to be done by wharfingers and lightermen, according to usage. If the master receive goods at the quay or beach, or send his boat for them, his responsibility commences with the receipt. Responsibility may depend, in some measure, and be modified, in some respects; by the custom of a particular place. As soon as any goods are put on board, the master must provide a sufficient number of persons to protect them; for even *if the crew be overpowered by a superior force*, and the goods stolen while the ship is in a port or river, within the body of a county, the master and owners will be responsible for the loss, although they have not been guilty of any fraud or fault. The law holds them responsible from reasons of public policy, and to prevent the combinations which might otherwise be made with thieves and robbers. *In all cases, it is the duty of the master to provide ropes, &c.* proper for the actual reception of the goods into the ship. And if a cask be accidentally staven, in letting it down into the hold, the master must answer for the loss. The ship must also be furnished with proper dunnage to preserve the cargo from effects of leakage, according to its nature and quality. And care must be taken, by the master, (unless this business, by usage or by agreement, is to be performed by the merchant,) so to stow and arrange the different articles of which the cargo consists, that they may not be injured by each other or by the motion or leakage of the ship. And more must not be taken on board than the ship can conveniently carry, leaving room for her own furniture and the provisions of the crew, and for the proper working of the vessel. Neither may the master take on board any *contraband goods*, whereby the ship and other parts of the cargo may be liable to forfeiture or detention. But, according to a New York case, admitting that the master shall not take on board contraband goods, *without the leave of his owner*, yet it may be a question how far the owner would be liable to a shipper, when contraband goods were put on board, *with the owner's consent*, and in consequence the innocent goods of a shipper are captured, detained, or condemned. A policy was underwritten upon *all lawful goods* on board a ship. The Court held that contraband goods were lawful goods, and that the fact of such goods being the goods insured need not be disclosed to the underwriter. Judge Kent said, that contraband goods were lawful goods, and that whatever is not prohibited to be exported by the positive law of the country, is *lawful.* It may be said that the law of nations is part of the municipal law of the land, and that, by that law, contraband trade is prohibited to neutrals, and consequently unlawful. This reasoning is not destitute of force; but the fact is, that the law of nations does not declare the *trade* unlawful. It only authorises the seizure of the contraband articles by the belligerent powers; and this it does from necessity. A neutral nation has nothing to do with the war, and is under no moral obligation to abandon or abridge its trade; and yet, at the same time, from the law of necessity, the powers at war have a right to seize and confiscate the contraband goods; and this they may do from a principle of self-defence. But the right of the hostile power to seize, does not destroy the right of the neutral power to export or transport. They are rights which may sometimes reciprocally clash and injure each other; but this collision is the effect of inevitable necessity, and the neutral has no just right to complain. A trade by a neutral, therefore, in articles contraband of war, is a lawful trade, though a trade, from necessity, subject to inconvenience and loss. The same question may be made as to how far a neutral owner, who transports property of a belligerent in his ship, is liable to a shipper of innocent goods, which are captured and detained in consequence thereof. In England, the Court of King's Bench held, that an insurance on *neutral* goods, on board a ship which had *enemies' property* on board, was valid. The ship was bound from New York to Havre de Grace, and was captured and carried into England. Lord Ellenborough said "the American was at liberty to pursue his commerce with France, and to be a carrier of goods for French subjects; at the risk, indeed, of having his voyage interrupted by the goods being seized, or of the vessel itself, on board of which they were, being detained or brought into British ports for the purpose of search; but the mere act of carrying such enemies' goods on board his vessel, constituted no violation of neutrality on the part of the American; nor did the arrest and detention of his vessel for the purpose of search and eventual condemnation of the goods, which might be found belonging to an enemy, form any breach of our duty towards the American. The indemnity sought under this policy is not an indemnity to an enemy, or a neutral forfeiting his neutrality by an act, hostility done by him, against the interests of Great Britain; but an indemnity to a neutral, as such, against the consequences of an act innocently and allowably done by him, in the exercise of his own neutral rights; and as innocently and allowably, to a certain degree, controlled and interrupted on our part. These rights, though they are, in a degree, adverse to each other, do not, therefore, in the exercise of them, necessarily place either party in the situation of an enemy to the other."

Contraband goods, found on board of a ship, are liable to condemnation; but do not affect innocent goods unless belonging to the same owner. And if the ship belong to the same owner, she will be liable to condemnation. But if the goods belong to a part owner, then only *his part* will be condemned. Articles of a civil or doubtful nature, may, from the nature of their destination, become contraband; as if they are bound to a port of naval or military equipment. So, if a ship have *contraband goods on board, with false papers, or a false destination*, she will be subject to condemnation. The master must not take on board any false or colorable papers, which may subject the ship to capture or detention; and he must procure and keep on board all the papers and documents required for the manifestation and protection of the ship and cargo, by the law of the countries from and to which the ship is bound; and, by the law of nations in general, and treaties between particular states; and it is necessary that all the documents should be correctly and legally framed, otherwise the owner and the freighter may be subjected to great losses. Very great care should be taken concerning this, as insurance may be defeated in consequence of want of accuracy, and vessel and cargo may be put in danger of loss.

Where, by the terms of a charter-party, a number of days is appointed for the lading of the cargo, either generally and without particular payment, on that particular account, by the merchant, or by way of demurrage, the master must not sail before the time; but he is not bound to wait beyond the time for a cargo, because the owner will not be entitled to demurrage, unless that is *specially* stipulated.

As to the commencement of the voyage, the master must forthwith obtain the necessary clearances or permission to sail, from officers of the customs and others appointed for that purpose, and commence his voyage without delay, as soon as the weather is favorable; but he must on no account sail out during tempestuous weather.

Convoy.—If there has been an undertaking or warranty, to sail with convoy, the vessel must repair to the place of rendezvous for that purpose, and the master must put himself under the protection and control of the ships of war, appointed under the authority of government for the guard of merchantmen, bound to the place of his destination. A *warranty* of this sort, not complied with, vacates a policy of insurance, so that the underwriters would not be answerable for a loss happening by tempest or other accident, wholly independent of the subject of the warranty, for which they would otherwise be liable. But if the warranty be made by the master or owner with the merchant, and not complied with, the master or owner may be liable for a loss happening by tempest or other accident, for which, otherwise, the master or owner would not be liable. The merchant, having trusted to this warranty of the master or owner, and in confidence of its performance, made a similar warranty in his contract with the underwriter, and having lost the benefit of his insurance by the breach of the warranty, on the part of the master and owner, has a right to an indemnity from them.

The convoy must be a ship or ships of war, appointed under the authority of government; that is, immediately by the government, or by the commander-in-chief of a particular station. The protection of a ship of war, accidentally bound on the same voyage, although discharging the office of convoy, is not a convoy within the meaning of the warranty.

But warranty to sail with convoy does not mean the departing with convoy, immediately from the lading port, but only from the place of rendezvous appointed for vessels bound from that port. Neither does it require the vessel to sail with convoy bound to the precise place of destination; but if the vessel sails with the only convoy appointed for vessels going to her place of destination, it is sufficient.

It may sometimes happen, that the force first appointed is to accompany the ships only for a part of their voyage, and to be succeeded by another; at other times, a small force is detached from the main body to bring them up to a particular point. If the vessel sail under the protection of the force thus appointed or detached, the warranty is satisfied. But this warranty requires not only that the vessel shall commence the voyage under the protection of the convoy, but also that she shall continue, during its course, under the same protection, unless prevented from so doing by tempest, or other unavoidable accident, in which cases the master and owners will be excused, if the master does all in his power to keep the benefit of the convoy.

Neither is it sufficient that the master sail in company with the convoying ships, but he must, before the departure, obtain, or at least use all due diligence to obtain, the sailing instructions and orders delivered out by the commander of the convoy to the masters of the trading vessels that are to sail under his protection.

The master must put his ship under the control of the convoy, as the protection expected from it, depends, in a great measure, upon that control. But this control does not commence until sailing instructions have been obtained, nor can it be enforced otherwise than by means of these instructions. Indeed, the master cannot have the benefit of the convoy if he has not the instructions, by observance of which that benefit is to be secured; and these, it is obvious, the master should have at the beginning of the voyage.

As to the course of the voyage, the master, having commenced, must proceed to the place of destination, without stopping at any intermediate port, or deviating from the straight and shortest course, unless such stopping or deviation is necessary to repair the ship from the effects of accident or tempest, or to avoid enemies or pirates, by whom he has good reason to expect he shall be attacked if he proceeds in the ordinary track, and when he has good reason to hope he shall escape by delay or deviation; or unless the ship sail to places resorted to, in long voyages, for a supply of water or provisions, by common and established usage. It has been held, that under an authority to go from New York to Barbadoes and a market, that the master has authority to go *bonâ fide* from island to island in the West Indies, until he has sold the whole of his cargo. He may sell part at one port, and part at another, until all is sold. It seems that a stopping to relieve a ship in distress is not a deviation, and will not discharge an underwriter; for if it would, no master would be justified in using an exertion to save a vessel from the most imminent danger of perishing.

And if the ship has the misfortune to meet with pirates or enemies, the master must perform the part of a valiant man, and make the best resistance which the comparative strength of his ship and crew will allow.

If the ship be driven into a port, out of the course of the voyage, by tempest, or the master sail thither for any of the before mentioned reasons, he must wait no longer than the necessity requires, but sail without delay, and for that purpose supply his ship with the requisite necessaries or repairs as expeditiously as he can.

It seems that, in such case, the ship may receive goods on board upon freight, at the *port of necessity*, if it be done without deviation or delay, or otherwise increasing the risk of the insurers. Therefore, where a ship and freight were insured from a port in Spain to London, with leave to *touch* and *stay* at any port or place whatever; and the ship was obliged to put into Gibraltar, and, while she lay there the master took on board some chests of dollars on freight; but the voyage appeared not to have been delayed thereby; and the ship was afterwards lost, on her homeward voyage,—the Court held that the trading at Gibraltar did not avoid the policy. Lord Ellenborough said, that he avoided giving any opinion as to the operation of a change of cargo, in the case of a policy on goods; because the taking in other goods, in the course of one entire voyage, where it is not provided for, may be contended to constitute a different adventure from that on which the ship started with her original cargo.

Lord Kenyon held, that under a policy *on ship*, "with liberty to touch and stay at any port or ports, without prejudice," the insured has no right to break bulk, in any port to which the ship is driven by necessity; if he does, the policy is void. But Lawrence, Judge, in a later case, said he doubted the soundness of this; but all the Court agreed, that nothing would justify the taking in any cargo, in the course of the voyage, which would increase the risk of the underwriter. And in a policy on a ship at and from Guernsey to London, with liberty to touch and *discharge* goods at Lisbon, Lord Ellenborough was of opinion that this did not authorise the insured to *take in* cargo at Lisbon, for the liberty was to discharge only, and the taking in cargo was a new adventure; and further, that a clause in the policy to return premium, if the ship sailed from Lisbon with convoy, did not help the case.

If, by reason of damage done to the ship, or through want of necessary materials, she cannot be repaired at all, or not without very great loss of time, the master is *at liberty* to procure another ship to transport the cargo to its place of destination. But if his own ship can be repaired, he is not *bound* to do it; but may detain it till the repairs are made, and even hypothecate it for the expense of them;—that is, supposing it not to be of a perishable nature; if it be, he ought to tranship, or sell it, according as one or the other will be most beneficial to the merchant. So, if the ship has been wrecked, and the cargo saved. And if, on the high seas, the ship be in imminent danger of sinking, and another ship, *apparently of sufficient ability*, be passing by, the master may remove the cargo into such ship; and although his own ship outlive the storm, and the other perish with the cargo, he will not be answerable for the loss. But the master has no *general* authority to *sell the cargo*, where the ship is disabled from completing her voyage; and though he obtain an order of a Vice-Admiralty Court for a sale, it will still be considered a *tortious* act in him.

Moreover, the master, during the voyage, must take all possible care of the cargo, and although he is not responsible for injury done by tempest, or other accidents, yet where rats occasion a leak in a vessel, whereby the goods were spoiled, the master was held responsible for the damage, notwithstanding the crew afterwards, by pumping, &c., did all they could to preserve the cargo from injury; because he was guilty of a fault. If he had had cats on board, he would have been excused. This rule, and the exception to it, though somewhat ludicrous, furnishes a good illustration of the general principle by which the master and owners are responsible for every injury which might have been prevented by human foresight or care.

So where, in a voyage from Hull to Gainsborough, a vessel was sunk in the river Trent, by striking against the anchor of another, which anchor lay under water, and without a buoy, whereby some goods in the former were injured, the owners of the first vessel were held answerable for the injury. In this case, the masters of both ships were considered guilty of negligence, the one in leaving his anchor without a buoy, the other in not avoiding it, as when he saw the vessel in the river, he must have known there was an anchor near at hand. Or, if it be taken that the negligence was only imputable to him who had left the anchor without a buoy; then he was answerable over to the master and owners of the vessel whose cargo had been injured.

If the master, being compelled to take refuge in a foreign port, during the course of his voyage, has occasion for money, for repairs, or other necessaries, to enable him to complete the voyage, and cannot otherwise conveniently obtain it, he may either hypothecate the whole cargo, or sell a part of it for this purpose; and in the latter case, if the ship reach the place of destination, the merchant will clearly be entitled to receive the clear value for which the goods might have been sold at that place; and according to the better opinion, (for the ancient ordinances do not agree upon the point,) the money is payable only in case of the safe arrival of the ship. And this seems the more reasonable, as the merchant is not thereby placed in a worse situation than if his goods had not been sold, but had remained on board. That this question has not been known to arise, either in England, or in the United States, seems a confirmation of the opinion which is here adopted.

In case of capture during the voyage, the duty of the master does not cease. He ought to contribute his exertions to rescue the property from condemnation, by interposing a claim, and exhibiting, in support of it, the documents with which he has been furnished, for the protection of the cargo. And if, by negligence in the performance of this duty, the proprietor of the goods sustain damage, the master is, and ought to be accountable, to the extent of the damage. *But if he be not negligent, and act with good faith*, he shall be protected, even though the condemnation of the goods shall appear to have been made in consequence of a *mistake* made by him in his answer to admiralty interrogatories. In an action against the master for damages for the loss of cochineal, where it appeared that the ship was a general ship, bound from New Orleans to New York, and the plaintiff had shipped the cochineal on board, and the defendant had signed bills of lading for it—one of which he kept, with the customary proofs of neutral property, and the ship, during the voyage, was captured by the British, and the captors took away all the papers relative to the ship and cargo, and libelled her in the admiralty, as Spanish property. The master put in an answer, and claim, under oath; and in answer to interrogatories stated, that he had not signed any bill of lading for the cochineal, and did not know to whom it belonged, but that it was paid for by, and delivered to a passenger. The cochineal was condemned, though the ship, and most of the cargo were cleared as neutral property. The judge, who tried the case, left it with the jury to say whether the master had been guilty of any fraudulent intent or not. If so, that they should find for the plaintiff; but if they were of opinion that the loss had happened through mere forgetfulness, mistake or unintentional default on his part, they ought to find for the defendant. The jury found for the defendant, and the full court afterwards declared, that the judge's direction was correct, and that the master might have forgotten that he had signed the bill of lading, and his answer did not justify the condemnation. The duty of a master to his owners does not oblige him *to violate the good faith even of an enemy*, in order to preserve his ship, nor to employ fraud, in order to effect that object.

At the completion of the voyage, the master must take care that the ship be safely moored or anchored, and, without delay, deliver the cargo to the merchant or his consignees, upon the production of bills of lading, and payment of the freight, and other charges, due in respect of it. But there are exceptions to this general rule, arising out of the power of the consignor to countermand the delivery, and stop the goods before they come to the possession of the consignee; but this will be separately considered hereafter under the head of *stoppage in transitu.* If, by the terms of the charter-party, a particular number of days is appointed for the delivery, either generally, or by way of demurrage, he must wait the appointed time for that purpose. These charges are, in ordinary cases, primage, and the usual petty average, as expressed in the bill of lading.

In case of any loss that became the subject of general average, the civil law imposed upon the master the duty of adjusting, and settling such average, and obtaining, from the owners of the cargo saved, the sums to be paid as a contribution to the loss; and allowed him to detain the cargo for that purpose. This power of retaining the cargo, is also given by the laws of Oleron, and by the French ordinance. It is said to be the practice in England, in the case of a general ship, for the master to take security from the merchants, before he delivers the goods, for the payment of their shares of this contribution when the average shall be adjusted. It is not known that there are any United States cases upon this point.

The cargo is bound to the ship, and the ship to the cargo; and, therefore, unless there is a stipulation to the contrary, the master is not absolutely bound to part with the possession of any portion of the cargo until the freight and other charges, due in respect of such portion, are paid. It has been held that the master may detain any part of the merchandise for the freight of all merchandise consigned to the same person. There are different rules and usages upon this subject, in different countries, which vary the manner in which the master may seize and detain goods for the payment of freight and charges. In England, the practice is to send the goods to a wharf, and order the wharfinger not to part with them until the freight and other charges are paid, if the master is doubtful of the payment. And, by the law of England, if the master once parts with the possession out of the hands of himself and his agents, he loses his lien or hold upon the goods, and cannot afterwards reclaim them. By the French ordinance, the lien continues while the goods are on board, in the lighters, or on the quay, and for two weeks after they have been delivered, provided they have not, in the mean time, passed into the hands of a third person.

If the master deliver part of the goods to the consignee, he may retain the residue, even against a purchaser, until freight is paid for the whole. But if the goods are sold to different persons by the consignee, and part delivered, the master cannot have a lien upon the residue, so as to compel one of the purchasers to pay freight for what has been delivered to another; but only for what had been purchased by himself. The master should, therefore, be careful how he delivers a part without having the whole freight secure. *A hostile embargo*, under which possession of the goods is taken by government, defeats the lien of the master upon the goods. *The manner of delivering the goods*, and consequently the period at which the responsibility of the master and owners will cease, depend upon the custom of particular places, and the usages of particular trades; of all which the master should make himself acquainted, according to his best opportunities.

CAUSES WHICH EXCUSE THE MASTER AND OWNERS.

The Bill of Lading, stipulates for the safe delivery of goods, in like good order and condition as when shipped, *the dangers of the seas excepted;* which is the only exception contained in it. These words certainly denote the *natural* accidents peculiar to that element; and in no more than one instance have they been held to extend to an event not attributable to natural causes. But in consequence of that decision, the English ship owners took an alarm, altered the form, and made the exception in the following words: "the act of God, the king's enemies, fire, and all and every other dangers and accidents of the seas, rivers, and navigation, of whatever nature and kind soever excepted." The case which excited so much alarm in the English ship owners, was as follows:—An action was brought by a merchant, whose goods were wet and spoiled, against the master of a vessel, navigating the rivers Ouse and Humber, from Selby to Hull. On the trial, it appeared, that at the entrance of the harbor at Hull, there was a bank, at which vessels used to lie in safety, but of which a part had been swept away by a great flood, some short time before the misfortune in question, so that it had become perfectly steep, instead of shelving towards the river; that, a few days after this flood, a vessel sunk by getting on this bank, and her mast, which was carried away, was suffered to float in the river, tied to some part of the vessel. And the defendant, upon sailing up the river, struck against the mast, which, giving way, forced the defendant's vessel towards the bank, where she struck, and would have remained safe, had the bank been in its former situation; but on the ebbing of the tide her stem sunk into the water, and the goods were spoiled. Upon which the defendant tendered evidence to show, that there had been no negligence; and contended, that it was the act of God, by which no man could be made accountable. The Court rejected this evidence as of no weight; and farther decided, that the act of God, which could excuse the defendant, must be *immediate;* but that this was too remote, and directed the jury to find a verdict for the plaintiff; and the Court of King's bench afterwards decided, that the Court's opinion in this case was correct. There does not appear to have existed, in this case, any bill of lading, or other instrument of contract.—The question therefore rested upon general principles. Probably most, if not all, the English bills of lading are in the new form above mentioned, and not in the older form, "the dangers of the seas excepted." The modern English form does not yet appear to have furnished matter for judicial determination, and cases under it must be rare. In the United States, the usual bill of lading is in the old form, and as such, we shall here consider the meaning of the phrase *perils of the seas.*

Dangers of the seas.—About the end of the reign of Charles I. an action upon a charter-party, which contained an exception of *perils of the seas*, was settled upon the *naked law question*, whether "*the taking of the ship by hostile persons unknown, armed in a warlike manner*," was within the meaning of the words perils of the seas. The Court, after examining several merchants upon the meaning of the words, as established by usage among them, decided, in conformity with such usage, that such taking of the ship was one of the perils of the seas.

Lord Kenyon held, that the question, whether any particular loss came within the description of a loss by the dangers of the seas, was purely a matter of fact, to be settled by a jury. This was an action brought against the owner of a ship, for not conveying goods; and it appeared that the ship was run down in day-light, and not in a tempest, by one of two other ships, which were sailing in an opposite direction to her, both of which kept to windward, as did also the defendant's ship; but it was matter of so much doubt, whether the master of the defendant's ship ought to have understood the course which the others would pursue, and have borne to leeward to avoid them, that no blame was considered imputable to him for not having done so, nor was any fault attributable to the persons who had the conduct of either of the other ships. This loss was therefore held to have happened by a peril of the seas.

But not every loss, proceeding from natural causes, is to be considered as happening by a peril of the sea. If a ship perish in consequence of striking a rock or shoal, the circumstances under which it takes place must be ascertained, in order to decide whether it be a peril of the sea, or a fault of the master. If the situation of the rock is generally known, and the ship not forced upon it by adverse winds, or tempest, the loss is to be imputed to the fault of the master. On the other hand, if a ship is forced upon such a rock by adverse winds, or tempest, or if the shoal was occasioned by a sudden and recent collection of sand, in a place where before ships could sail in safety, the loss is to be attributed to the act of God, or a peril of the sea. In the case which excited so much the alarm of English ship owners, and which led to their new form of bills of lading, Lord Kenyon said, that if an earthquake had removed the bank, at the time of the accident, the master would have been excused.

If a vessel, reasonably sufficient for the voyage, is lost by a peril of the sea, the merchant cannot charge the owners by showing that a stouter ship would have outlived the peril.

From the preceding observations and authorities, it is obvious that neither the master nor owners can be answerable for a loss happening by *lightning;* yet, upon the principles whereon the decisions are founded, they must be answerable for a loss by fire, proceeding from any *other* cause, whether originally commencing in their own ship, or communicated to it from another. But in England, a statute was passed, in 1786, which protects the owners of ships against any loss happening to goods by reason of any fire happening to, or on board the ship. In this statute, which we are carefully to notice, is an English statute, passed since the American Independence, and since the peace which followed it, the master is not mentioned, but the English modern bill of lading has removed his liability also.

GENERAL DUTIES OF THE MERCHANT OR FREIGHTER.

The merchant must not lade any prohibited, or uncustomed goods, by which the ship may be subjected to detention or forfeiture. Where goods were clandestinely shipped on board an American ship, bound from New York to Scotland, which goods were prohibited by the laws of Great Britain, from being imported into that country, and, in consequence thereof, the ship was seized, and the master was compelled to pay a large sum of money for her release—the Court, in New York, held an action against the merchant, for the damages, sustainable; although it was contended that no country takes cognizance of the municipal laws of another country; and that the *lading of such goods here* was lawful, and therefore not wrongful.

In general, even in the case of affreightment by charter-party, the command of the ship is reserved to the owners, or the master appointed by them; and therefore the merchant has not the power or opportunity of detaining the ship beyond the stipulated time, or employing her in any other than the stipulated service. It may, however, be otherwise, according to the contract of the parties. Ships chartered to the English East India company are under regulations peculiar to that corporation, which need not be enumerated here.

If a merchant, who has taken a ship to freight, declines to load her in pursuance of his agreement; or who, before the commencement, or during the course of the voyage, withdraws his goods from the ship; or who has hired a ship to go to a distant port, and engaged to furnish a cargo homeward, fails so to do;—in all these cases, the merchant shall be answerable for damages, to be estimated by a jury, upon a consideration of all the circumstances, and the real injury, if the parties cannot settle it themselves. No positive rules as to the damages recoverable, in either of these cases, can be laid down. Each case must rest upon its own circumstances.

By the bill of lading, the master undertakes to deliver the goods upon payment of freight, with *primage, and average* accustomed.

The word primage denotes a small payment to the master for his care and trouble, which he is to receive to his own use, unless he has otherwise agreed with his owners. This is variously regulated in different voyages and trades.

It is sometimes called the master's hat money. *The word average* here denotes several *petty charges*, which are to be borne partly by the *ship* and partly by the *cargo;* such as the expense of beaconage, towing, &c. These depend upon usage. This, and the preceding article of *primage*, are sometimes commuted for a specific sum, or a certain per centage on the freight.

Connected with this subject, it may not be improper to mention *the duty of a merchant who ships goods for the account of, and consigned to, another person.* He should give notice of the shipment by a letter of advice, lest the consignee should lose an opportunity to insure them. This rule, however, may be controlled by the course of dealing between the parties. Should the master of a ship, from necessity, be obliged to tranship his cargo, it would be his duty to give notice to the owners, for the same reason, as well as on account of his ordinary duty.

PAYMENT OF FREIGHT.

The contract for the conveyance of merchandise is, in its nature, an *entire* contract; and, unless it be completely performed, by the delivery of the goods at the place of destination, the merchant will, in general, derive no benefit from the time and labor of a partial conveyance; and, consequently, subject to no payment, though the ship may have been hired by the month or week. And it has been ruled by the Supreme Judicial Court of Massachusetts, that although the master has a lien upon the goods for the freight, yet that an action cannot be maintained for the freight until the goods are delivered. But in some cases the whole freight becomes due, although the cargo has not been carried to the port of destination. It has been decided in an Admiralty Court, in a case of capture, that if the ship be carried into port and the cargo taken out by order of the Court of Admiralty, the master is not compellable to reload it and carry it to the port of destination, although both the ship and cargo are cleared; for a separation has taken place between the ship and cargo, and the contract, in such case, is held to have ceased. At the moment of separation the ship acquires a right to proceed where the master pleases; and the contract being once dissolved, cannot be revived.

The cases in which a partial payment of freight may be claimed, are exceptions to the general rule, founded upon principles of equity and justice, as applicable to particular circumstances.

An interruption of the regular course of the voyage, happening without the fault of the owner, does not deprive him of his freight, if the ship afterwards proceed with the cargo to the place of destination, as in the case of capture and recapture. In such a case there will be a deduction for salvage. And if the ship, in such case, were hired by the week or month, it seems, by analogy to the case of wages, that the owner would be entitled to recover freight during the detention; for it has been adjudged that mariners' wages, during such detention, are recoverable. And in case a ship in the course of the voyage becomes disabled, and is obliged to put into port to repair, it seems that, if the freight be payable monthly or weekly, the owner is entitled to recover freight for the time of detention, notwithstanding the owner has contracted to keep the ship tight and in good repair during the voyage. But if there should be delay or neglect on his part, the case might be varied.

But, though *the delivery of goods at the place of destination is*, in general, necessary to entitle the owner to freight, yet, with respect to living animals, whether men or cattle, which may frequently die during the voyage, without any fault or neglect of the persons belonging to the ship, it is said, that if there be no express agreement whether the freight is to be paid for the *lading* or for the *transporting* them, freight shall be paid as well for the dead as for the living. If the agreement be to pay freight for the lading them, their death certainly cannot deprive the owner of the freight; but if the agreement be to pay for *transporting* them, then no freight is due for those that die on the voyage.

Whether money advanced for freight is to be recovered back, in case the goods are not transported, does not seem to be clearly settled, if we take all the cases in the books into consideration, for opinions have been somewhat at variance. The better opinion seems to be, that it is paid for *lading* the goods for transportation, (and some deny that this is, properly speaking, *freight*,) it is not recoverable back in any case; but freight, in strict propriety, perhaps, may be confined to the compensation for *transporting* goods, and if the contract is for transporting, then if the ship fails to transport them, the money paid in advance is, in law, recoverable back, as being paid for a consideration which has happened to fail.

If freight or passage money is advanced, and the party is guilty of any neglect or delay, he is not entitled to a return, though he has not received the benefit of the contract.

If a pregnant woman is delivered during the voyage, no freight is due for the infant.

When goods are sent in a general ship, in a contract to pay for the *lading* of goods to be transported, the amount of freight is either settled between the parties or by the usage of trade. In the case of a charter-party, *if the stipulated payment is a gross sum* for the entire ship, or an entire part of a ship, for the whole voyage, the gross sum will be payable, although the merchant have not fully laden the ship. If the master, in consideration of freight, to be paid him at a certain rate per ton, &c., agrees to take a *complete* cargo, and proceed to the port of delivery, he will be liable for damages if he loads a *short* cargo only; but he may, nevertheless, recover freight for the *short* cargo. And if a merchant send the vessel of another for a cargo, to a destined port, and obtains none, he who hired the ship must pay, "empty or full."

In the cases just mentioned, the owners take upon themselves the chance of a long or a short voyage; but if the merchant stipulate to pay by the month or by the week, the risk of the duration falls upon him; and if no time be fixed for its commencement, it will begin from the day of the ship's breaking ground and commencing the voyage, and will continue during its whole course and during all unavoidable delays, not occasioned by capture or by such circumstances as give rise to the general average—of which hereafter.

In all mercantile contracts, a month is to be understood a *calendar*, and not a *lunar* month.

If there are express stipulations as to the payment of freight, the contract is to be governed by them. If there are none, the master may retain the goods till the freight is paid; and if, by custom-house regulations, goods are to be landed and put into warehouses of the king or government, if the duties are not paid, the master may enter them in his own name, and thereby preserve his lien on the goods for the freight. And it has been adjudged in New York, that if the master, in the course of the voyage, is compelled to pay duties in order to obtain a clearance of his cargo on freight, he may bind the owner of the ship to payment. *Kent, Judge, dissented here from the rest of the Court.*

If a consignee, known as such to the master, sell the goods before they are landed, he, and not the buyer, is liable to be sued for the freight, although the buyer enter the goods at the custom-house, in his own name; neither does an entry of goods by a person who is only agent of the consignor, and known to the master to be acting in that character, render such agent liable for the freight.

In some cases, freight, or rather an equivalent recompense due to the owners, is to be paid, although the goods have not been delivered at the place of destination; and so the contract for conveyance not strictly performed. As if part of the cargo be thrown overboard for the necessary preservation of the ship, and the ship afterwards arrive at her destined port with the remainder of the cargo, the value of this part is to be answered to the merchant, by way of general average, and the freight of it allowed to the owner, as will be shown hereafter. So, if the master is obliged, by necessity, to sell part of the cargo for provisions or repairs of the ship, the owners must pay the merchant the price it would sell for at the port of destination, and is allowed to charge freight, as if it was actually delivered.

The French ordinance directs payment of freight in another case, which does not seem to be provided for in any other ordinance, which is as follows: *If it happen that commerce is prohibited with the country* to which a ship is in the course of sailing, and the ship is obliged to return with her lading, there shall be due only the freight outward, although the ship be hired out and home. The commentators upon this article agree, that the freight outward must be paid if the ship be freighted outward only. And where a ship arrived at her port of destination, but her cargo was prohibited from entry, an American Court has held, conformably to the doctrine of Valin and the French ordinance, that freight was earned for the outward voyage. And the Court said, that this was not like the case of a ship prevented from entering a port in consequence of a blockade, for there the voyage is not performed; and it is impossible to say, certainly, that it would be safely performed if there were no blockade. And in case of blockade of the port of destination, no freight would be due.

If, in a time of war, a neutral vessel, carrying goods, belonging to subjects of one of the belligerent powers, be taken by those of the other, (in which case the goods are lawful prize, but the ship is to be restored,) the captor pays the whole freight, because he represents the enemy by possessing himself of the enemy's goods, by right of war; and although the whole freight has not been earned by the completion of the voyage, yet, as the captor, by this act of seizure, has prevented its completion, his seizure shall operate to the same effect as an actual delivery to the consignee, and subject him to the payment of full freight. This, however, is to be understood *of such goods only* as a neutral vessel may convey, by the law of nations, and of a trade ordinarily allowed to the neutral nation by the government to whose subjects the goods belong. If the goods are contraband by the law of nations, such as naval stores, &c., no freight is to be paid by the captor; and this, whether the master know of the quality of the goods or not; for, in a time of war, the master is bound to know the contents of his cargo, and cannot be permitted to plead his ignorance of it. Neither, according to English cases, is any freight to be paid by the captor, if the ship is employed in bringing the produce of the colony of a belligerent power to the mother country; and there are several other English cases in relation to the colonial trade, which grew out of the incidents of the recent wars in which Great Britain has been engaged, the correctness of which has been doubted, and as no decisions of our own Courts upon the subject are known, they will not be noticed here.

If a ship be taken and retaken, and carried, by the recaptors, into a port short of the place of destination, and the ship be there restored before the cargo is restored, either by reason of some delay of the merchant to claim, or of doubt or litigation upon his right, the Court of Admiralty does not require the ship to wait the doubtful event of the claim of the cargo, in order to convey it to the place of destination, but gives the owners the whole freight, subject only to the deduction of salvage; for the capture is not imputable to the master, and the delay of restitution of the cargo is imputable to the merchant.

If an enemy's ship, carrying the goods of a neutral, be taken, and the captor conduct the ship and cargo to the place of destination, and so fulfil the master's contract, the captor is entitled to the freight; but not if he take the ship to a different port, and do not perform the voyage.

In cases of capture and condemnation of the cargo, the freight to be paid by the captors, (where the captors are held to pay freight,) is not, necessarily, to be taken at the rate fixed in the charter-party, even where no fraud is imputed in the contract itself. When, by the events of war, freights rise to an extraordinary price, captors are not bound by that inflamed rate of freight. When no such circumstances exist—when a ship is carrying on an ordinary trade, the charter-party is the fair rule of valuation, unless it is impeached. In such cases, if the value of the cargo condemned is insufficient to pay the freight decreed as a charge on the cargo and the expenses of the captors, in ordinary circumstances, the freight is entitled to priority; though the particular nature of the trade and the situation of the trading countries, may sometimes, perhaps, vary the rule.

But, although it is the allowed privilege of neutral trade to carry enemy's property, subject to capture, and a temporary detention, and the captor takes it, subject to the charge of freight; yet, if the party prevaricates, or conducts with ill faith, he is not entitled to freight. Fraud and misconduct amount to a forfeiture.

If a ship captured be lost by the *negligence* of the prize-master, where the ship is innocently employed, and a part of the cargo is saved, which is insufficient to pay the *freight*, the Court will not only decree restitution of the value of the ship, but also of the full freight against the captors personally. If a ship be condemned, and the cargo acquitted as neutral, and the ship, afterwards, is carried by the captors to its port of destination, they are entitled to freight; but if they are not carried to their port of destination, freight shall not be paid to the captors. This is the general rule. It may admit of an exception. As where goods have been carried, not to the port of destination, but to the country where the owner lives, and to which the proceeds were ultimately destined; but, by the regulations of the country where they are shipped, they cannot be cleared out directly for the port of ultimate destination; there as the intention of the parties is completely effected in the manner they would have elected, if at perfect liberty so to do, freight has been adjudged to the captors.

And if the cargo be not carried to the port of destination, no freight is due to the captors, although the cargo has been sold very advantageously in the port of the capturing power to which she has been conveyed.

Goods damaged.—It may frequently happen, that the goods brought in specie to the place of destination, may be so much damaged or diminished during the course of the voyage, as to be of no value to the merchant. The question may arise, whether freight is due under such circumstances. The ancient ordinances do not agree upon this point. Sometimes, usage may settle particular cases. In the English West India trade, the freight of sugar and molasses is regulated by the weight of the casks at the port of delivery in England; therefore, by this usage, *in this particular trade*, the loss of freight occasioned by leakage, necessarily falls upon the owners of the ship, by the nature of the contract; but this, it is obvious, is *only the usage of a particular trade*, and is confined to mere usage. *The question as to the effect of leakage*, occasioned by the perils of the seas, on freight, was settled in New York, in the case of *Frith* vs. *Barker*. In that case, 119 hogsheads of sugar were shipped from Surinam to New York, and, in consequence of tempestuous weather, 50 hogsheads were washed out, and arrived empty. Freight was claimed for these 50 hogsheads, and the Court held that none was due. Chief Justice Kent declared, that these must be considered as having perished by the perils of the seas,—and that no freight is due for goods which perish during the course of the voyage. This opinion will not apply to the case of an article which is lost by other causes than perils of the sea; such as internal decay, leakage, evaporation, or the like.

As to the value of the goods at the port of destination,—it is nothing to the master, whether they are spoiled or not, provided the merchant takes them. It is enough if the master has carried them, for by so doing he has earned his freight.

The merchant cannot be compelled to accept his goods at any other port than the port of destination.

The question may arise, whether the merchant has a right *to abandon the goods for the freight alone*, at the port of destination. It does not seem to have been ever claimed in England. It received a judicial decision in New York, in the case of *Griswold* vs. *New York Insurance Company*, where the Court held, that when goods are carried to the port of destination, though spoiled, so as to be of no value to the owner, the owner cannot abandon the goods for the freight, but the master is entitled to full freight. The master is no more accountable for the soundness of the goods than he is for the price in the market. If he has conducted with fidelity and vigilance in the course of the voyage, he has no concern with the diminution of value. It may impair the remedy which his lien afforded, but it does not diminish his personal demand against the shipper.

Where freight may be apportioned, or a *part* only of the stipulated sum may be claimed. And this is the case—*first*, when the ship has performed the whole voyage, but has brought a part only of the merchant's goods in safety to the port of destination. And, *secondly*, when the ship has not performed the whole voyage, but the master has delivered the goods to the merchant, and he has received them at a place short of the port of destination.

In the case of a general ship, or of a ship chartered for freight, to be paid according to the quantity of the goods, there can be no doubt but that freight is due for so much as is delivered. The contract, in these cases, being distinct, or at least divisible, in its own nature. *But in the case of a ship chartered, at a specific sum for the voyage*, without relation to the quantity of the goods, (which seems, more properly, to be a contract for the *use of the ship* than for the conveyance of merchandise,) if the ship should lose a part of her merchandise by a peril of the sea, no English case appears, which authorizes an apportionment of the freight. And in New York it has been determined, that where the ship is chartered for a specific sum for the voyage, the general rule is, that if part of the cargo be lost by the perils of the sea, and part conveyed to the place of destination, there can be no apportionment of the freight under the charter-party.

The apportionment of freight usually happens when the ship, by reason of any disaster, goes into a port short of the place of destination, and is unable to prosecute and complete the voyage. The master, in this case, may, if he will, and can do so, send the cargo by another ship, and thus earn the freight; but if he is unable, or if he declines to do it, and the goods are there received by the merchant, the general rule is, that freight shall be paid by the merchant according to the proportion of the voyage performed. And, in a New York case, the Court said, "It is too late now to deny or disregard the rule, that freight, in proportion to the voyage performed, is due, when a ship, by reason of perils of the sea, goes into a port short of her destination, and is unable to prosecute her voyage, and the goods are received by the owner, *at such intermediate port.*

And the general doctrine has been recognised in a number of American cases. But if the ship, by reason of perils of the sea, be compelled, after the commencement of the voyage, to return to *the port of lading*, and the merchant there receives his goods, no freight is due. And in such case, if the master would entitle himself to any freight, he must transport the goods, however damaged, to the port of destination; and if the merchant refuses, an action for damages lies. *So, if the ship be captured, and recaptured, and brought back* to the port of her departure, no proportion of the freight is due.

In case of a proportional freight earned, the best rule to ascertain the amount is, to consider what portion of the voyage has been performed, not when the vessel encountered the peril, and was interrupted in her course, but when the goods had arrived at the intermediate port, because that is the extent of the voyage performed, as it respects the interest of the shipper; but if that does not appear, the general rule is to estimate the time it would ordinarily take to complete the voyage to the port of destination, and add that to the number of days from the departure to the time of the disaster; and then, as the number of days for the whole voyage, supposing it completed, is to the stipulated freight, so is the number of days from the port of departure to the time of the peril, to the proportion of freight to be paid. The cases of apportionment of freight usually arise out of contracts for transporting goods generally, and are what the law usually implies in contracts of such a description, according to the nature of such transactions; but where the parties enter into express stipulations under hand and seal, (and it seems, in writing, without seal,) the parties are bound only according to the special contract,—as in this case. The plaintiff, in a suit, let his ship by a charter-party, dated August 2, 1796, to the defendant, to freight from Liverpool to Wyburgh and back to Liverpool, and agreed that the master should take on board a cargo of salt for Wyburgh, and after delivering it should take on board a cargo of deals. In consideration of which, the defendant agreed to pay the plaintiff "in full for the freight and hire of the ship for the said voyage, at and after the rate of £7 per standard hundred of deals, *delivered at Liverpool, &c.*, the freight to be paid, one fourth in cash at her arrival, and the remainder by an acceptance in London, at four months' date." The plaintiff alleged, in support of his suit, for *part* of the freight, that the salt was shipped at Liverpool and carried to Wyburgh, and a cargo of deals taken in there; and that the ship, on her passage towards Liverpool, was wrecked and rendered incapable of proceeding any further; and that it became necessary to put the cargo of deals on shore for the preservation thereof, which cargo, "so unladen, the defendant accepted and received into his hands and possession, and sold and disposed of it to his own use, whereby he became liable to pay the plaintiff a proportionable part of the freight and hire of said ship for the carriage of the cargo of deals, for such part of the voyage from Wyburgh to Liverpool as the ship performed." The facts were admitted, and thus it became a question of law;—it being admitted, also, that no part of the cargo was carried to Liverpool. The plaintiff did not contend that he offered to convey the cargo to Liverpool, nor did the defendant contend that he had required him so to do. The Court of King's Bench decided that the plaintiff could not recover any thing in the present action. Lord Kenyon observed, that by the terms of the agreement, the defendant engaged to pay so much money on the delivery of the goods at Liverpool, one fourth in cash on her arrival, and the remainder by an acceptance at four months; but the goods never arrived;—then at what time are those bills to be dated? We do not sit here to make contracts, but to enforce contracts. This is not the case of an *implied* contract, but of an *express* contract. And where the parties have expressed their meaning in a contract, there is nothing to be implied which can vary it. Mr. Justice Lawrence, one of the

Court, suggested, that although the plaintiff could not recover a proportion of the freight in an action founded upon the agreement contained in the charter-party; yet that, perhaps, the subsequent receipt of the deals by the defendant might have been evidence of a *new contract* between the parties.

Where a Swedish ship was brought in under the embargo, on a voyage from Philadelphia to Lisbon, and it became necessary to take out her cargo, by order of a Court of Admiralty, which cargo was claimed for merchants in Lisbon, and, after the embargo was taken off, freight was claimed by the master,—the Court said, the cargo is claimed for persons not subject to the embargo. The ship was brought in as a Swedish ship, and on that account only;—the detention has been occasioned without any co-operation, on the part of the cargo. The cargo has been brought out of its course, and been detained, on account of the ship, and is finally compellable to find another ship to convey it to its market. Under such circumstances, it is not liable to the demand of freight.

If the proceeds of a captured cargo have actually come into the hands of the shipper; although restoration be decreed by a Court of Admiralty, the owner is not compellable to pay freight. Nor can a proportionate freight, according to the part of the voyage performed, be recovered, during the pendency of process in the Admiralty court; for the ship may be condemned, and the freight adjudged to the captors.

Passage money seems to be, to every purpose, except of lien, the same as freight.

As the right to freight does not commence until the ship has broken ground, and begun the voyage, no partial payment can be claimed for goods laden on board, if, even without the fault of the master, the ship is prevented from actually setting forth on the voyage. So held in a case where a cargo was shipped in Jamaica, at a great expense to the owners, and the ship actually cleared out for the voyage; but while waiting for convoy, was cut out of the river by two French privateers, and being afterwards retaken, was carried into Port Royal, where the cargo was sold, under an order of the Court of Admiralty, and the proceeds thereof, deducting salvage, paid to the merchants.

When a contract for freight from one port to another, or others, and back again, is an entire contract. It often happens that a ship is chartered to sail from one port to another, and back again to the first port, at a certain sum per month, or other period; and the ship is lost upon her return passage. The following cases will show when such contracts are *entire*, and when they are *divisible*—and serve as useful cautions to masters and owners, entering into such contracts. One Mackerel, owner of the ship Richard, let her to freight, by a charter-party, dated 9th March, 1774, to Simond, "by the month, for such time as she should be employed in performing a voyage from London to Plymouth, and the island of Grenada, and thence back to London;"—in which he covenanted "that the ship should, pursuant to the orders and direction of the freighters, their factors or assigns, prosecute and perform the voyage above mentioned, (the damages and perils of the sea, and the restraint of princes and rulers excepted,) and should, in such *outward and homeward voyage*, load and reload all lawful goods. And that his ship's company, and boats, should aid and assist in unloading and reloading the said ship's cargoes, as customary, at the island of Grenada; and that he would pay all port charges, and pilotage. In consideration whereof, the defendant, (Simond,) covenanted, that he "would load and unload the ship, and give the master proper orders in respect thereof; and that the ship should be discharged out of her said monthly employ, on the delivery of her homeward cargo in London, and also should, and would, well and truly pay, or cause to be paid, to the said owner, his executors, administrators or assigns, in full for the freight and hire of said ship, £100 sterling per calendar month, for all such time as the said ship should be taken up in performing the voyage aforesaid, to commence, and be accounted from the day of the date of said charter-party, and to end and determine on the day of the discharge of the homeward cargo, at London, and to be paid, one third part thereof, on her report inwards, at the Custom-house, London, and the remaining two thirds thereof in two calendar months then next following. The ship took in the goods of Simond at London;—sailed to Plymouth,—there took in other goods of Simond, thence proceeded to Grenada,—arrived, and there landed the cargo,—and received another from Simond's factor there, with which she sailed for London; but on the way was lost by tempest.

The voyage to Grenada took up *three* months, and *five* months elapsed, when the ship was lost. The action was brought for the freight. The merchant, (Simond,) insisted that nothing was due. The Court decided that freight was payable for *three* months. Lord Mansfield observed—the question depends upon the construction of the charter-party.—If the parties have expressed their meaning defectively, the court must be guided by the nature of the thing. The charter-party puts no case, but that of a prosperous voyage, out and home:—It provides for freight, if the ship will arrive safe, and report her cargo.—No provision is made for any other case. If the ship be cast away, and never arrive at London; yet, if the goods are saved, freight shall be paid, because, the merchant has profit from the voyage. This is not expressed by the charter-party, but arises out of the equity of the case. Freight is the mother of wages, and the safety of the ship is the mother of freight—that is the general rule. If there be *one entire voyage*, out and in, and the ship is cast away homeward, no wages are due; because the whole profit is lost;—and by express agreement, the parties may make outward and homeward voyage *one*. Nothing is more common than two voyages, and wherever there are two voyages, and the vessel is lost on the homeward voyage, freight is due for the first. This was the case of two voyages; the cargo was landed outwards, and the owner covenanted to pay port charges on the outward voyage. The whole of that voyage was performed, port charges incurred and paid. Nothing, however, is due on the homeward voyage. *But a different construction prevailed in the following case*,—the words of the charter-party being different. Pattison, master and part owner of the ship William and Mary, at Liverpool, by charter-party, dated 28 July, 1794, let the ship to freight to Byrne, for a voyage to be made from Liverpool to Madeira;—thence to Barbadoes, and thence back to Liverpool, Greenock, or Bristol; with liberty to the freighters to order the vessel from Barbadoes to any other West India Island, except Jamaica; they paying all pilotage, and port charges incurred thereby. And the freighters took and hired the ship in the manner following, viz: that the master should immediately receive, and take a cargo on board from the freighters, and that the vessel so loaded should immediately proceed direct to Madeira, and there deliver such goods as should be ordered by the freighters, and also receive, and take on board at Madeira, such other goods as the freighters might think proper to ship; and, that being done, that the master should proceed to Barbadoes, and there deliver her cargo, and receive, and take on board, a cargo from the freighters, and therewith proceed, with the first opportunity, direct to Liverpool, Greenock or Bristol, and there deliver the same cargo, and so *end the said intended voyage*. In consideration of which, the freighter, among other things, promised and agreed to pay the *defendant*, in full for the freight and hire of the ship, for the said voyage, £136 10*s*. per calendar month, for six months certain, to commence in eight days after the ship was ready to receive the cargo at Liverpool, and continue till she was discharged at Liverpool, Greenock, or Bristol, together with two-thirds the amount of all port charges and pilotage that might accrue, and be paid, in the course of the voyage, with customary primage. Payment to be made as follows: £136 10*s.* before sailing from Liverpool, by a good bill at three months' date; and what cash would be required for the vessel's disbursements, and port charges, at Madeira, and Barbadoes, to be paid in part of said freight; and that the remainder of said freight should become due, and be paid, on the final discharge of said vessel at Liverpool, Greenock or Bristol, by good bills on London, at three months' date. The period of computation of the freight commenced 7th August, 1794. On 19th August, 1794, the ship sailed from Liverpool to Madeira, freighted with goods, and arrived there 19th Sept. 1794, and discharged there by 4th Oct. following, as many goods as were to be discharged at Madeira; and took on board, on account of the merchants, ninety pipes of wine, and sailed thence on 9th Oct. for Barbadoes; but, on 10th November, was captured, on her way thither. The merchants paid £135, part of the freight, for the first month, and also the port charges, and disbursements, at Madeira. Pattison claimed, in his suit against the merchants, further freight from the 7th September, 1794, to the day of the ship's capture; or to the day when she had completed her delivery at Madeira; or freight for the goods delivered there, at the usual rate of conveyance, allowing the £135. But the Court held, that he had no claim whatever. In this case, Pattison contended, that there ought to be an apportionment of the freight; but Lord Kenyon overruled it.

These two cases may serve as a guide for the construction of other charter-parties, and as a caution so to frame that instrument, as to express the real meaning of the parties, without ambiguity.

A New York case. A ship was chartered from New York to Martinique, and back to New York, for the entire sum of $4500, to be paid in 60 days after the delivery of the return cago at New York. The ship delivered her outward cargo at Martinique, and on her return with the homeward cargo, was captured, and carried into Antigua, where the cargo was libelled in the Admiralty Court, and detained for further proof; subject to the lien of freight. The ship returned to New York, without the cargo. The goods were apprized by the Admiralty Court; and afterwards, on further proof, ordered to be restored to the claimants. It was held that the contract was *entire;* and that no freight could be recovered, in an action upon the charter-party; because the ship did not deliver the return cargo at New York, which was required by the *express* agreement of the parties. A proportional freight, for which the action was brought, was denied upon another ground.

Another New York case. A ship was chartered from New York to St. Domingo, and back to New York, for an entire sum, payable in 60 days after her return to New York. On arriving at St. Domingo, the ship was turned away by a British cruiser, on account of the blockade of the port, and returned to New York with her original cargo. It was held, that no freight was due;—not for the *whole*, because the voyage had not been performed;—not a *proportionate freight*, because there had been no acceptance of the goods at an intermediate port.

A ship was let to freight, under a charter-party, from Shields to Lisbon—*the freight to be paid on a right delivery of the cargo.* The ship sailed from Shields, and joined convoy at Portsmouth, and after being detained a month off Lymington, her sailing orders were recalled by the convoy, in consequence of the occupation of Portugal by the French; and the charterers, having refused to receive the cargo at Portsmouth, to which the ship returned, it was unloaded by the owner of the ship, after notice to them, and sold, by consent of the parties, without prejudice.—The Court were of opinion, that no portion of the freight was due. But where, by a charter-party, a ship was let for 12 months certain, and from thence to a longer period, if any, that the charterers should think fit to keep and retain the same, and the freight was to be paid 24*s.* per month, per ton, being £1119 12*s.* per month, commencing from 24th Sept. 1806, and *ending when the ship should be returned to the River Thames, and there by the freighter declared to be discharged;* but the ship was not to be discharged abroad, though abroad at the end of twelve months, but to be discharged in London ;—and the freight was to be paid as follows: 2 months' freight at the execution of the charter-party, 2 months' more at the end of six months, from 24th September, 1806,—2 months' more at the end of ten months, 2 months' more at the end of fourteen months, should the ship be so long employed ; and, in like manner, two months' more at the end of every two calendar months, *until the ship should be discharged, and immediately, upon such discharge,* the balance to be paid by the freighter. It was held, in this case, that the freight, being reserved at so much per month, was earned at the end of each month, although the times stipulated for the payment were from four months to fourteen months, and the ship was lost before the fourteen months; and the postponement of the payment did not create a contingency, whether it should be paid at all.

On sale of a ship chartered for a particular voyage. If she be sold in the course of the voyage, this does not transfer the freight, and the purchaser has no legal right to receive the freight and demurrage due from the freighter upon the charter-party.

OF GENERAL, OR GROSS AVERAGE.

General, or Gross Average, is the general contribution, which is to be made by all parties towards a loss sustained by *some*, for the benefit of *all.* It is called *general*, to distinguish it from *special* or *particular* average ;—a very incorrect expression, used to denote every kind of partial loss or damage happening either to the ship or cargo, from any cause whatever ;—and it is called, sometimes, *gross* average, to distinguish it from *customary* average, mentioned in the bill of lading, which latter species is, sometimes, called *petty* average. *The principle of this general contribution* is derived from the ancient laws of Rhodes. The wisdom and equity of the rule reflects honor on the memory of the State, from whose code it has been derived. The principle of the rule has been adopted by all commercial nations; but there is no principle, which has been followed by more variations in practice.

The case in which this general contribution is to be made. The Rhodian rule of law is this:—"If goods are thrown overboard, in order to lighten the ship, the loss incurred, *for the sake of all*, shall be made good by the contribution *of all.*"

The goods must be thrown overboard. The *mind* and *agency* of man must be employed. If they are forced out of the ship by the violence of the waves, or are destroyed in the ship by lightning, or tempest, the merchant alone must bear the loss. They must be *thrown* overboard to *lighten the ship.* If they are cast overboard by the wanton caprice of the crew, or the passengers, *they*, or the master, and owners for them, must make good the loss.

The goods must be *thrown* overboard *for the sake of all;* not because the ship is too heavily laden to prosecute an ordinary course, through a tranquil sea, (which would be the fault of those who had shipped, or received the goods,) *but because, in a moment of distress and danger,* their weight, or their presence, prevents the extraordinary exertions required *for the general safety.* When a ship is in danger of perishing, from the violent agitation of the wind, or from the quantity of water that may have forced a way into her; or is laboring on a rock, or on a shoal, upon which she may have been driven by a tempest—or when a pirate, or an enemy pursues, gains ground, and is ready to overtake, no measure that may facilitate the motion, or passage of the ship, can be really injurious to any one, who is interested in the welfare of any part of the adventure, and every such measure *may be* beneficial to almost all. In such emergencies, therefore, when the mind of the brave is appalled, it is lawful to have recourse to every mode of preservation, and to *cast out the goods*, in order to *lighten the ship* for the *preservation of all.*

But if the ship and the residue of the cargo, be saved from the peril, by the *voluntary* destruction or abandonment of part of the goods, equity requires, that the safety of some should not be purchased at the expense of others, and, therefore, all must contribute.

Many of the foreign ordinances have prescribed various forms to be adopted with respect to jettisons—(the name given to goods thrown overboard in such cases, and applied also to the act of throwing them over,) some requring particular persons to be consulted before it is done; and they have even set down the phrases of conversation, and specified the sort of goods, which shall be thrown over first; and some authors have been even more minute: but regulations prescribed on shore, at ease in the closet, or in the legislature, will seldom be even thought of at sea, when life or liberty is in jeopardy. Previous deliberation, if there be time to deliberate, and a due choice of the articles to be first thrown over, may be proofs of the necessity of the act, but they are not the only proofs, and therefore ought not to be considered the essential proofs. And, indeed, in this case, as in many others, too close a compliance with forms, at a period of supposed danger, has often justly excited a suspicion of fraud.

Protest. In all cases, however, and in all countries, it is justly required of the master, that he draw up an account of the jettison, and verify the same by the oath of himself and some of the crew, as soon as possible after his arrival at any port, that there may be no opportunity to purloin goods from the ship, and then pretend that they were cast overboard in the danger.

Several corollaries, or inferences have been deduced from the Rhodian rule. Thus, for instance, *if in the act of casting out the goods*, or in order *to accomplish it*, *other goods* in the ship are *broken, damaged or destroyed*, the value of these, also, must be included in the general contribution. And so held in New York, where it has been declared, that all damage, arising from jettison, or other necessity, is to be contributed for, though it happen to perishable articles, which remain in specie. Therefore, if, in cutting away a mast, it be splintered, so that corn, which is part of the cargo, sustain damage, that damage is to be included in the general average. So if, in removing and throwing over any part of the cargo, another part is injured.

So if, to avoid an impending danger, or to repair a damage occasioned by a storm, the ship be compelled to take refuge in a port to which she was not destined, and into which she cannot enter without taking out part of the cargo; and the part so taken out, to lighten the ship, happen to be lost in the barges employed to carry it on shore, this loss, also, must be repaired by general average, as it was occasioned by a necessary act for the general benefit. But if, after the removal of the goods, the ship, with the remainder of the cargo, should unfortunately perish; and the goods in the barges be saved, the proprietors of the latter shall not contribute for the loss of the others; because the safety thereof is not owing to that loss.

So if *part* of the cargo *be voluntarily, and without fraud or cowardice, delivered up to a pirate*, by way of composition or ransom, to induce him to spare the vessel, and the residue of the goods, (an event highly improbable,) or if a sum of money be agreed to be paid to a pirate, or enemy, by way of ransom, it seems, that the value of the ransomed must contribute in this loss also. But if the enemy, or pirate, having overpowered the ship, select for himself such parts of the cargo as he pleases, and plunder the ship of them, in this case there shall be no contribution, since the safety of the rest is not occasioned by their loss.

Ransom of any ship, or goods on board, in case of capture by an enemy, by a British act of Parliament, passed in 1782, is absolutely prohibited; and contracts entered into for that purpose are declared void. We have no such statute; and the doctrine in our courts is not settled. In England, there is a penalty of £500 enacted, for entering into such a contract.

Not only may the *loss of goods* become the subject of contribution; but, in some cases, the *expense incurred in relation to them.* Thus, when *to repair the damage done to the ship by tempest*, it is necessary to *unlade the goods*, the expense of ware-housing, and re-shipping, should be sustained by general contribution; because all are interested in it.

The principle of the rule extends to the ship and furniture, as well as goods. Thus the provisions, guns, boats, or other tackle of the ship, and also the goods of the owner, or of the master of the ship, as well as the goods of the merchant, are liable. Emerigon states a remarkable case of a boat. The master of a French vessel, having been pursued several hours by two frigates, and having also his flight intercepted by two other vessels a-head, hoisted his boat into the sea, as soon as it was dark, furnished with a mast and sail, and a lanthorn at the mast-head, and then changed his course, and sailed the whole night, without any light on board his own ship. In the morning no enemy was in sight. Thus he escaped.—The boat thus abandoned, was made good by general contribution. If sails are blown away, or masts or cables broken, *by the violence of the wind, even though they would have been cut away the next instant*, for the safety of the whole, yet the loss must fall upon the owner. The broken tools of an artificer bring no charge upon the employer. This has been held to apply to the case of a mainmast, broken in a heavy gale, by carrying an unusual press of sail in order to escape from an enemy, to whom the ship had struck. *But if the master, compelled by necessity, cut his cable* from the anchor, to use it as a hawser, or if he *cut away and abandon his masts*, sails or cables, to lighten and preserve the ship, the value must be made good by contribution. *So the damage voluntarily done to the ship, by cutting her deck or sides*, in order to hasten a necessary jettison, *or by running her upon a rock, shoal or strand*, to avoid the danger of a storm, or of an enemy; and the expense of recovering the ship in the latter case, and the pilotage, port duties, and other charges incurred by taking a ship into port, to avoid an impending peril;—and the expense of assistance to preserve and secure the ship from the violence of a storm, at her entrance into the port of destination, are to be sustained by general contribution.

If the ship be voluntarily stranded to save the cargo, the loss of the ship becomes a general average; but where the ship is *involuntarily* stranded, and part of the cargo saved, and part lost, no general average is due. Emerigon lays down the rule thus: the owner of the ship wrecked, and the owners of the merchandise lost in the shipwreck, have no right to contribution from those who have the good fortune to save their effects; because that which the one and the other has sustained, has not procured the common safety. It is as in the case of a fire, he who saves his own saves for himself alone. So, *after shipwreck*, there is no contribution to be made between the goods recovered, and fished up, and those lost; but *save who can.*

If from sea damage, as springing aleak, &c., a ship is obliged to go into a port to refit, according to a New York case, the wages and provisions, from the moment of bearing away to the period of her sailing on her voyage, after refitting, constitute a subject of general average; but Mr. Justice Livingston dissented from this opinion. Judge Davis, of the District Court of Massachusetts, in a case before him, considered the modern and approved doctrine to be, that the bearing away to a port of necessity is for the benefit of the whole concern; and that the expenses actually applied to the ship are to be paid by the owner; and that *all other expenses* incurred thereby, must be the subject of general average.

Extra expenses, in consequence of a detention by an embargo, are not the subject of general contribution; nor those incurred in consequence of detention by *quarantine*.

And wages and provisions, during a detention by embargo, have been held to be charges upon the ship and freight only.

But *wages and provisions*, *during a detention after capture*, form a general average. For capture is a disaster without the fault of the owner of the goods or of the ship, and by superior force, and the expenses incurred on account of it are for the common benefit of all. However, where a vessel was captured and *afterwards released*, but part of the cargo was condemned in a Court of Admiralty, from which judgment *on the cargo* an appeal was made, and the master, being unable to procure sureties to prosecute it, compromised with the captors and paid a rañsom, it was decided that the sum so paid was not a general average, but must be borne by the cargo alone, it not having been incurred for the benefit of the ship, freight, and cargo, but for the *cargo* only.

For additional expense on account of wages and maintenance of the crew, while waiting for convoy, general contribution has sometimes been claimed. In the following case it was allowed. A ship freighted from Amsterdam to Cadiz, with a stipulation to sail with convoy, either to Cadiz or as far as Lisbon. She sailed, under convoy of a man of war, as far as Lisbon, in company with several other vessels. When she came near Lisbon, she fell in with a fleet of privateers, by which some of the other vessels were captured, and the ship in question put into Lisbon, in obedience to a signal from the man of war, and there waited six months before she could safely proceed to Cadiz. In this case, it is to be noted, the ship put into port to avoid an extraordinary and impending peril, and not merely as a matter of general caution to avoid the ordinary dangers attending a state of warfare. And the voyage was delayed, not by any accident, but by design to avoid the peril.

Where temporal safety only is obtained by the loss,—as, if the ship survive the storm or escape the enemy, and be afterwards cast away by another tempest, and goods are saved from the wreck, the clear value of the goods so saved, must be contributary to the original loss; because, without that loss, even this diminished value would have had no existence.

Recovery of the goods thrown out, if afterwards found.—Although the abandonment of the goods on these occasions is done by the act of man, yet it is not so far voluntary as to devest the property of the merchant, and give a title to any person who may find and save them; but the merchant may reclaim them from the finder on payment of salvage; and if the merchant is able to do this, their clear value is to be deducted from the contribution or paid to the contributors. It has been held that the merchant may maintain an action to recover the found goods.

Goods taken by the master, without the freighter's consent, on board a ship, the whole of which is taken to freight by the merchant, and cast overboard, for the general safety, in a time of danger, it is considered, are not to be made good by general average, because they were put on board wrongfully.

Goods stowed upon deck, by the French ordinance, (and the same rule prevails in Great Britain and in the United States,) are excluded from the benefit of general average. The master ought never to stow goods on deck without the consent of the merchant.

What articles shall contribute to a general average.—These are all articles of merchandise conveyed in the ship for the purposes of traffic, whether belonging to merchants, passengers, owner or master, of whatever kind, and however small their weight, in comparison to their value. For the contribution is made, not on account of incumbrance to the ship, but of safety obtained. Therefore, bullion and jewels contribute according to their full value. But wearing apparel, jewels, or other things, belonging to the passengers or crew, and taken on board for their private use, and not for traffic, do not contribute on these occasions. Both the ship and freight gained in the voyage, are now, every where, contributary, although formerly it was not so. But the owners do not contribute for the victuals and ammunition of the ship. In some countries this is otherwise, and the rule varies. In England, the owners contribute according to the value of the ship at the end of the voyage, and the clear amount of the freight or earnings of the voyage, after deducting the wages of the crew and other expenses. In cases of jettisons, the English rule, in respect to the value of ship and freight, prevails in the United States of America,—and where only a *pro rata* (or proportional) freight has been earned, that, and not the full freight has been adjudged to be the correct valuation.

But in cases of general average on detentions after capture, a different rule has been adopted in New York. It has been apportioned thus, viz. on the *cargo*, valued at first cost, and charges at the port of departure; on the *vessel*, valued at four-fifths of her actual value at the same place, exclusive of outfits; and on the *freight*, at one half the gross amount, payable in the event of a successful performance of the voyage. This rule is, in some degree, arbitrary; but it is considered, on the whole, as equitable as any that can be adopted. But this rule applies only to the case of captures.

If a ship be so much disabled by the perils of the seas as to render it necessary to sell her abroad, the amount she actually and *bonâ fide* sold for, is the value for which she contributes, on a general average, and not the four-fifths of her original value, as in the case of capture.

The mariners do not contribute for their wages, except in the single instance of the ransom of the ship. In this case, they are required to contribute, to encourage resistance. In other cases they are exempted, lest the apprehension of personal loss should restrain them from the execution of measures necessary to general safety.

Mode of contribution.—By the civil law, the goods cast overboard were valued only at prime cost. And formerly, in England, this was the practice, if the loss happened before the voyage was half performed; but if afterwards, then to value the goods at the clear price they would have produced at the port of destination, and this prevails in many places abroad; but now, in England, the clear value at the place of destination is, in all cases, adopted, where the average is adjusted after the ship's arrival there. It is otherwise in case of insurance.

Rule for making up the general average.—Let us suppose it to be at the port of destination. *First*, take an account of the several losses to be made good by contribution. *Secondly*, take another account, in value of all the articles which are to contribute; in which must be included the value of the goods, &c., thrown overboard; because, otherwise, the proprietors of those goods will receive their full value, and pay nothing towards the loss. Let us then suppose a particular case, and show the example in figures. Let us suppose that it became necessary, in the Downs, to cut the cable of a ship destined for Hull; that the ship, afterwards, struck upon the Goodwin, which compelled the master to cut away his mast, and cast overboard part of the cargo, in doing which, another part was injured, and that the ship, being cleared from the sands, was forced to take refuge in Ramsgate harbor, to avoid the further effects of the storm.

Amount of Losses.	£ s. d.
Goods of A. cast overboard,	500 0 0
Damage of B.'s goods by the jettison,	200 0 0
Freight of goods cast overboard,	100 0 0
Price of new cable, anchor, and mast, £300 Deduct one-third, 100	200 0 0
Expense bringing ship off the sands,	50 0 0
Pilotage, port duties, going in and out of the harbor, and commission to the agent who made the disbursements,	100 0 0
Expenses there,	25 0 0
Adjusting the average,	4 0 0
Portage,	1 0 0
Total of losses,	£1180 0 0

Value of articles to contribute.	£ s. d.
Goods of A. cast overboard, sound value,	500 0 0
Do. of B. deduct freight and charges,	1000 0 0
Goods of C.	500 0 0
Do. of D.	2000 0 0
Do. of E.	5000 0 0
Value of ship,	2000 0 0
Clear freight, deduct wages, victuals, &c.	800 0 0
Total of contributory values,	11800 0 0

£ £ £ £
Then 11800 : 1180 : : 100 : 10 that is, each person will lose 10 per cent.

Therefore, A.'s loss is	50 00	D.'s loss is	200 00
B.'s	100 00	E.'s	500 00
C.'s	50 00	The owner's,	280 00
	200 00		980 00
			200 00
		The sum of all the losses,	1180 00

Upon this calculation, the owners are to lose £280; but they are to receive from the contribution £380 to make good their disbursements, and £100 more for the freight of goods thrown overboard, or £480 minus £280.

They, therefore, are actually to receive	£200 0 0
A. is to contribute £50, but has lost £500, therefore is to receive	450 0 0
B. is to contribute £100, but has lost £200, therefore B. is to receive	100 0 0
Total to be received,	750 0 0

C., D., and E. have lost nothing, and are to pay as above, viz.

C.	50 0 0
D.	200 0 0
E.	500 0 0
Total to be paid,	£750 0 0

which is exactly equal to the total to be received; and must be paid by, and to, each person, in rateable proportion, to be ascertained by another calculation, which it is unnecessary to state here.

In the above calculation, the freight of goods thrown overboard is included, which appears to be proper, as the freight of these goods is to be paid, and their supposed value is taken, clear of freight and other charges.

STOPPAGE IN TRANSITU.

Stoppage in transitu; that is, stopping the goods shipped on their passage; in other words, after they are shipped, and *before* they are delivered, is a right which the law gives the consignor in certain cases, as where the goods are shipped upon credit, and the consignee has become bankrupt or failed. In such case the consignor may, *before* or *at* the arrival of the goods at the place of destination, countermand the delivery, and cause them to be delivered to himself or some other person for his use. This practice originated in chancery, but has since been frequently recognised and carried into effect in courts of law. But this right of stoppage ceases when the goods have been delivered into the actual or constructive possession of the consignee. 1st. Let us consider in what cases, generally, goods may be stopped *in transitu.* 2d. Under what circumstances they are deemed *in transitu,* and where not so deemed. 3d. By what acts the right of the consignor may be taken away, before the *transit,* or the time they are delivered. *First,* the act of stopping is an adverse act of the consignor against the consignee. If the consignee, after an act of bankruptcy, deliver up the bills of lading to another person, upon his undertaking to apply the proceeds of the goods in discharge of bills of exchange drawn for the price, and he, accordingly, receive the goods, he cannot retain them against the bankrupt's assignees, although the consignor afterwards approve of the arrangement; and it seems that the law would be the same, in case he who so received the goods were, at the time, the consignor's agent. But if the delivery be countermanded by the consignor, the consignee having failed or become bankrupt, it is the duty of the master to obey the countermand, and deliver the goods to the order of the consignor. Such countermand may be easily effected if the bill of lading is originally made for delivery to the order of the consignor; for, in that case, the consignor, if he have cause, can send another part of the bill of lading to a correspondent, endorsed in blank, or for delivery to him. But the countermand may also be made, in the case above, if the consignee is originally named in the body of the bill of lading. For the right of *stopping* does not depend upon a supposition that the property has not passed from the consignor; but, on the contrary, that it has passed from him to some other person; and the question of stoppage *in transitu,* generally is, whether the circumstances are such that the consignor may devest the property which has passed to another, and revest it in himself.

A person abroad, in pursuance of orders, purchasing goods on his own credit, of others, whose names are unknown to the merchant, and who charges the merchant with a commission on the price, and consigns them to him, is a consignor within the meaning of this rule; in reality, he is the vendor, and the consignee the vendee.

So also is a person who sends goods to be sold on the joint account of himself and the consignee. But a person, who becomes surety for the consignee by accepting bills drawn for the price of the goods, by the vendor, is *not a consignee* within this rule, although the bills be sent, through his hands, to the consignee.

If the consignor endorse and transmit the bill of lading, in pursuance of an *agreement and in trust, to indemnify against acceptances or the like, he cannot countermand the delivery* and take back the goods while the trust and object of the consignment remain unsatisfied; nor must the master re-deliver them to him. So if goods be sent by order of the consignee, on his account and at his risk, and the consignor draw bills of exchange on him for the price, and endorse and transmit the bills of lading, the *consignor cannot take possession of the goods at the place of destination,* and insist upon immediate payment as the condition of delivering them,—the consignee being willing to accept the bills and not having failed in his circumstances. And Sir Wm. Scott has held that the right of stoppage *in transitu* is limited to cases of the insolvency of the consignees, and that the goods cannot be countermanded on any other event.

A mere lien, without a property in the goods, cannot give the right of stoppage *in transitu*. Therefore, a fuller or dyer, who has fulled or dyed cloths, and who is not obliged to part with the possession until he is paid, yet if he put them on board a hoy, to transmit them to the employers, he cannot stop them *in transitu*, even if the employer has failed.

And although part of the price has been paid, or a bill of exchange has been accepted for the whole, and endorsed over to a third person, yet the consignor may exercise this right. And a general usage, for land carriers to retain goods for security, for the general balance of account of the consignee, will not defeat this right of the consignor upon his payment of the carriage of the particular goods only. Nor will a similar usage, when the carriage is to be paid by the consignor, authorize the carrier to detain goods from the consignee who has paid the price of them.

Secondly. Goods are in transitu not only while they remain in possession of the carrier, whether by water or land, and although such carrier may have been named and appointed by the consignee, *but also while they are in any place of deposit* connected with the transmission and delivery of them, and until they arrive at the *actual* or constructive possession of the consignee. If goods are sent, by sea, to a certain port, to be forwarded from thence, by land, to the residence of the consignee, and upon the ship's arrival at the port are delivered to a wharfinger, who receives them on the part of the consignee, to be forwarded to him accordingly, they are subject to this right of the consignor, in the hands of the wharfinger; and the law is the same in case of delivery to a packer, appointed by the buyer, unless the warehouse of the packer be used by the buyer as his own, and be the place of the ultimate destination of the goods; but after the goods have arrived *at the end of their journey*, the right of stoppage is gone.

The master of a ship, chartered wholly by the consignee, is here held to be a carrier, in whose hands goods may be stopped. *But where the consignee has chartered the ship for a term of years*, and fitted out, victualled, and manned her, goods put on board thereof to be sent by him on a mercantile adventure, for which he had bought them, cannot be stopped, he being the owner of the ship for the time being, and the delivery of the goods, on board, being equivalent to a delivery in a warehouse belonging to him. Where a ship, which ought to have performed quarantine, came into port without doing so, and the assignees of the consignee, who had received the bill of lading, but had become bankrupt, went on board immediately, claimed the goods, opened some of the chests, and put a person on board to keep possession,—and the ship being, on the same day, ordered out of port to perform quarantine, an agent of the consignor having received another bill of lading, claimed the goods of the master while he was performing quarantine. Lord Kenyon held, that the consignor's right to stop the goods existed when the claim was made, because the voyage was not at an end until the quarantine was performed. And this opinion was sanctioned by the Court of King's Bench.

If the claim of the consignor is made before the consignee has a right to take actual possession, the goods may be stopped.

But if the master has begun to unload, and has delivered part of the cargo to the consignee, the consignor's right to countermand is wholly at an end, and cannot be exercised over the residue of the cargo. And if the master has actually delivered the goods to the person by whom they were ordered, and at whose risk they were to be imported, the consignor cannot reclaim them, although the bill of lading was for delivery to the consignor, and was unendorsed, and the bill of exchange drawn for the price has been dishonored. In such a case, the propriety of the delivery, as between the consignor and the master seems doubtful. It has been held, that as between buyer and seller, the right to stop the goods *in transitu* ceases, when the goods come to the possession of the agents of the consignees, to whom they were ordered to be sent, at the place of the agent's abode; for there the goods are to receive a new direction from the venders, according to their orders to their agents.

Lastly. By what acts this right of the consignor may be taken away before the end of the transit. The bill of lading, in all its usual forms, contains the word "*assigns.*" Sometimes it is made for delivery to the consignor, by name, or his assigns;—sometimes to order, or assigns, not naming any person;—and at other times, to the consignee by name, or assigns. In the two first cases, the consignor either transmits it, without any indorsement or indorses his own name generally upon it, without mentioning any other person; or indorses it specially for delivery to a person named by the indorsement. Occasionally too, particular conditions, or restrictions, respecting the delivery, are mentioned in the indorsement.

It is manifest, that there is a strong resemblance between this instrument and a promissory note. The mere possession of a promissory note, made payable to another person, and not indorsed by him, gives the holder no power to indorse it over. Nor ought the mere possession of a bill of lading, made for delivery to the consignor, and not indorsed by him, to induce any one to believe, that the holder has a right to dispose of the goods. On the other hand, if the bill of lading, be originally made for delivery to the consignee, or being made for delivery to the consignor, or his assigns, or to order, or assigns, be indorsed by the consignor, either to a third person by name, or generally, without designating any person,—it may, on the first view, be thought, that the person named in these two first cases, or who is the holder of the instrument, in the latter case, has authority to dispose of the goods as he thinks proper. In what follows, the word *consignee* will be used to denote such a person—and the bill of lading spoken of, is to be understood as falling within one of these three descriptions last mentioned, unless a contrary meaning is pointed out.

It frequently happens, in practice, that the consignee, having received the bill of lading, sells the goods for a valuable consideration, or raises money upon them before their arrival, and delivers over the bill of lading to a third person, who is wholly unacquainted with the terms of the consignment, and knows not but that the consignee is absolutely entitled to receive and dispose of them. Under such circumstances, a very important question has arisen, upon the right of the consignor to countermand the delivery, as between him and the person to whom the bill of lading has been thus delivered, without fraud or collusion.

The frequency and convenience of assignments of bills of lading among merchants is well known; but not every mercantile practice of frequent use is, or ought to be, a part of the law of the land; for if such were the case, the law must often depart from its own principles; nevertheless the law does adopt many ancient mercantile usages and customs, more especially, when they are calculated to promote honesty, prevent fraud, and are consonant to legal reason, and legal wisdom.

The earliest case upon this subject drew this doctrine from Lord Holt—"that the consignee of a bill of lading has such a property, that he may assign it over;"—and it had been so decided in the Exchequer Court; but the question upon the effect of the assignment was not properly before the court. In a later case, Lord Mansfield said,—"If the goods are *bonâ fide* sold by the factor, at sea, (as they may be where no delivery can be given,) the sale will be good, and the owner can never dispute with the vendee, because the sale was *bonâ fide*, and with the owner's own authority." But in this case, the court, thinking there was reason to believe the assignment to have been fraudulent, sent the cause to a second trial, to ascertain that point. In a later case, the court held, that, "by an assignment made *for a valuable consideration*, and without notice, to the assignee that the goods were not paid for, the property was absolutely transferred to the assignee, and that the consignor was, by such assignment, deprived of the right to stop the goods *in transitu*, which, as against the original consignee, might have been exercised, and this decision was ultimately supported upon appeal; and it is now the settled doctrine, that bills of lading may, for a *valuable consideration*, and *without fraud*, be transferred by indorsement, and defeat the consignor's right of stoppage *in transitu*.

But not in all cases. The nature and object of the consignment, and the character of the consignee, must be attended to. If the goods be sent to the consignee as a purchaser, he may either sell or pledge them, before their arrival, and if the bill of lading has, by its form, required and received the indorsement of the consignor, a second indorsement by the consignee is not necessary to perfect the transaction between him and the third person. On the other hand—if the goods be sent to the consignee, as a factor, his possession of the bill of lading cannot, in reason, give him any greater power over the goods before their arrival, than his actual possession of them afterwards would do; and as in the case of actual possession, although a factor may sell the goods, and thereby bind his principal, because his employment and authority are to sell; yet he cannot pawn, or pledge them; because he is not, by his employment, authorised so to do; so, before the arrival of the goods, he cannot divest the consignee's right to stop the goods, by indorsing, or delivering over, the bill of lading as a pledge. This was decided in a case, where the goods were consigned on the joint account of the consignor's and consignee, and a bill of lading was sent to deliver the goods to the consignee, or his assigns, who afterwards indorsed it to a third person, upon condition of their making an advance upon it, which they failed to do, and retained it as a security for prior advances. It was held in this case, that such indorsement, and delivery, of the bill of lading, did not divest the consignor's right to stop the goods *in transitu.*

The indorsement of a bill of lading is not to be considered, properly speaking, as an actual transfer of the goods, but as affording a presumption of such a transfer; and, consequently, the object and legal effect of it may be ascertained by other circumstances. Therefore, where a bill of lading was indorsed, and transmitted by the consignor to an agent, to enable him to receive the goods, in case the consignee should fail, it was doubted, whether the agent could maintain an action at law, for the goods, in his own name. The court, however, settled the cause upon another point, and left this undecided. In another case, the court decided, that the property of goods passes by indorsement and delivery of the bill of lading by the consignees to a *bonâ fide* purchaser, for a valuable consideration, and without collusion; although the purchaser knew that the consignor had received only acceptances, payable at a future day, from the consignee, for the amount; and that therefore, in such case, the consignor's right of stoppage *in transitu* is devested.

But though indorsement, or delivery, of the bill of lading does not, *necessarily*, enable the consignee to devest the consignor's right to stop the goods; yet there may be *circumstances equivalent to such indorsement or delivery*, which may enable the consignee to do this. Thompson & Co. sent goods from Ireland to London, to be sold by Eustace & Holland, their factors there, and wrote to them to insure their goods and sent them a bill of lading, not indorsed, but having the names of Eustace & Holland on the back, and being applied to by them for an indorsement, answered, *by letter*, that if the bill of lading was not endorsed, it was a mistake, and they would send on an indorsement;—upon which Eustace & Holland sold the goods; and, it afterwards happening, that they were unable to pay bills drawn upon them by Thompson & Co. on the general account, one Dick paid those bills for the honor of the drawers; and, knowing all these transactions, applied to them for an indorsement of the bill of lading, which they sent him;—and Dick, thereupon, demanded the goods of the master of the ship, who refused to deliver them, and delivered them to the purchasers under Eustace & Holland. Dick brought an action against the master, in which Lord Kenyon ruled, that, under such circumstances, he could not recover. The circumstances of the case were considered as equivalent to a *bonâ fide* indorsement of the bills of lading to Eustace & Holland, and binding upon the consignors.

But if there be not such factor, and the bill of lading be for delivery to order or assigns, and transmitted unindorsed, the holder cannot, by an attempt to transfer the property of the goods to a third person, defeat the right of the consignor to stop them *in transitu*. One Fox, of London, ordered five pipes of wine from Abbot & Co. of Oporto, which they shipped on board a vessel bound to London, and took from the master bills of lading for delivery to order or assigns. One of the bills they sent to Fox by letter, giving notice that they had shipped the wine, sent the bill of lading, and that they had drawn a bill of exchange upon him for the price. Fox accepted the bill of exchange, payable at nine months. Before the exchange became due the wine arrived; and Fox, not being able to pay the duties, it was sent to the King's ware-house, where it remained. Fox, driven by a creditor, sold the wine to him, and soon after became bankrupt; and the agents of the consignees, having paid the duties, and obtained the wine, the purchaser under Fox brought an action against the consignees' agents for the value. But the court held that the action could not be maintained, and that the consignors' right of stopping the goods was not devested, under the circumstances.

A difficult question of fact may arise upon the fairness of the assignment, and *even, as between the consignor and the original consignee, the right to stop the goods may be doubtful,* in some cases. It would be a great hardship, if owners and masters of ships should be obliged to exercise a judgment upon doubtful matters of fact, and to decide upon them and deliver the goods at their own peril; but the law does not altogether throw this burthen upon them. It has been held, that the master discharges himself, if he delivers the goods to the person, to whom the consignor first indorsed the bill of lading; but in the case here alluded to, the question arose between two consignees, to each of whom a bill of lading had been indorsed, and there had been no countermand, or attempt to stop them *in transitu*, and the master happened to know the priority of the indorsement. In another case, which was an action, brought by the assignee of the original consignee, against the master, who had delivered the goods to the person to whom the consignor had sent another bill of lading, as a security, and to enable him to take possession for him, if the consignee should fail, which had been the case, a usage was proved, that in case of the indorsement of bills of lading to different persons, the master was at liberty to deliver to whichever he thought proper; and upon that ground, the court directed the jury accordingly—legalizing the usage. From a later case, it may be collected, that if the master, being required to deliver the goods to an agent of the consignor, either expressly engage so to do or say that he will not part with them, until he is certain of a safe delivery, and afterwards deliver them to the consignee, or to persons claiming under him, he will be responsible to the consignor, provided it shall turn out that the consignor was legally entitled to countermand the delivery, and take back the goods.

In general, where two opposite parties claim a right to receive the goods, both, or either of them, will be willing to give an *indemnity to the master;* and the master should, in prudence, deliver the goods to those upon whose indemnity he can most safely rely. But if a satisfactory indemnity is not offered, and the master must exercise a discretion; then, if a bill of lading has not been assigned over by the consignee, and he has failed, without doubt, the master should deliver them to the person, who claims for the consignor. If the consignor has indorsed bills of lading to different persons, the master shall deliver to the person to whom the consignor first made the indorsement. If the consignee has assigned the bill of lading, and the validity of the assignment is questionable, —in England, the master deposits the goods in a place of safety, and applies to the Court of Chancery, by way of interpleader, to compel the contending parties to litigate their rights, in a suit between themselves.

SALVAGE.

Salvage is the compensation to be made to those, by whose assistance a ship, or its cargo, may be saved from impending peril—or recovered after actual loss. It is commonly, at present, made by a payment in money; but, in the infancy of commerce, was usually made by some portion of the specific articles saved or recovered.

All foreign codes of maritime laws, ancient and modern, contain provisions and enactments upon this subject. Those will be passed over here; for it is evident, that positive and settled rules are little adapted to the administration of justice in varying and unsettled cases. They can afford no rational criterion by which to estimate the degrees of labor, or the degrees of peril, to which those engaged in the meritorious service of assisting the distressed, on a boisterous element are exposed. And therefore, the law of England in the case of wrecked and abandoned property, at sea, like the laws of some other countries, has fixed no positive rule, or rate of salvage; but directs only, as a general principle, that a reasonable compensation shall be made. We have adopted the same principle. And our highest tribunal has declared, that where the amount of salvage is not fixed by positive law, it must be determined by the principles of general law, and is discretionary, under all the circumstances of the case. All civilized and commercial states, in modern times, have labored to suppress the barbarous spirit of plundering the helpless and distressed mariner; but we cannot go into the detail. *Salvage* may be considered, *first*, with regard to effects saved from the perils of the seas.—*Second*, with regard to effects retaken from an enemy, into whose hands they have fallen.

Effects saved from the perils of the seas.—A person who by his labor preserves goods, which the owner, or the person intrusted with the care of them, has either abandoned, in distress at sea, or is unable to protect and secure them, is entitled, by the common law, to retain the possession of the goods saved until a proper compensation is made to him for his trouble. And this compensation, if the parties cannot agree upon it, may be ascertained by a jury, in an action by the salvor against the proprietor of the goods. Or the proprietor may tender the salvor what he considers a sufficient sum, and, upon refusal to deliver the goods, bring an action against the salvor; and if the jury think the sum tendered sufficient, he will recover his goods, or their value, and the costs of suit. If the salvage is performed at sea, the Court of Admiralty has jurisdiction over the subject, and will fix the sum to be paid, and adjust the proportions, and take care of the property, pending the suit; or, if a sale is necessary, direct a sale to be made, and divide the proceeds between the salvors and proprietors, according to equity and reason. And the court will fix the salvage, having regard, not only to the labor bestowed, and peril incurred, but also the situation in which the salvors stand with respect to the property saved, the promptitude and alacrity manifested in saving it, and to the value of the ship and cargo, as well as the danger from which they were rescued. In one case, the Supreme Court of the United States decreed the payment of *one third of the net value* as salvage. In another case, the same Court decreed to the owners of the saving ship *one third of the gross value.* And, in another case, the same Court decreed *one third of the gross value* as salvage, and *two thirds of that* to the *owners* of the saving vessel. In a New York case, the District Court of the United States decreed one half of the net proceeds as salvage. Thus, it appears, that the allowance is discretionary with the court; and courts are liberal in the allowance of it.

A passenger is not entitled to make a claim for the ordinary assistance he may be enabled to afford to a vessel in distress. It is the duty as well as the interest of all persons on board, of every description, to contribute to their aid on such an occasion. A passenger, however, is not bound to remain on board the ship in the hour of danger, but may quit her if he has an opportunity so to do; much less is he required to take upon himself any *responsibility* as to the conduct of the ship.

But there may be cases in which a passenger may be entitled to a very considerable sum for *extraordinary services and responsibility incurred.* A ship, bound to the West Indies, struck upon the shoals of Chichester, in a gale of wind, and, in that situation, was deserted by the master, who took part of the crew with him. A passenger was on board, who had commanded vessels in the same trade, and took command of the ship by desire of the passengers, and with the consent of the mate and the remainder of the crew, and carried her back to Ramsgate harbor. The owner approved of this, and, in a letter to the underwriters, attributed the preservation of the ship to his skill and management, and intimated that he thought the passenger's services worth £200 at least. A jury gave him £400, and, upon an application to set aside the verdict, the Court refused to do it. Lord Alvanley, in giving the opinion of the Court, said, that when a passenger goes beyond the line of his duty and takes the responsibility and direction of the ship, as if he were master, he is entitled to compensation by way of salvage. It is like a case of extraordinary peril, where pilotage would, in the opinion of Sir Wm. Scott, be difficult to distinguish from a case of salvage, properly so called, and where extraordinary exertion and personal danger might exalt the service into a salvage service.

If a vessel in distress is abandoned at sea by the master and crew, except one man, who is left, either by accident or design, he is discharged from his contract as a mariner of that vessel; and if he contributes to the preservation of the vessel, he will be entitled to salvage.

Salvage on recapture.—In England, there are many statute regulations concerning salvage; but, in the United States, there is no statute respecting salvage except in case of recapture. The principle of the English Courts of Admiralty (previous to their acts of Parliament) is adopted, of considering the property of goods captured completely devested *only* by a *sentence* of a court of competent jurisdiction; after which the property *is* devested. A statute of the United States provides, that if the vessel or goods of any person resident within or under the protection of the United States, be recaptured after a hostile capture, before such vessel or goods shall have been condemned as a prize, they shall be restored to the owner on payment of salvage of *one eighth* part, if recaptured by a *public* vessel; and of *one sixth* part, if recaptured by a *private* vessel of the United States; but if the recaptured vessel be armed, eitheir before or after capture, then the salvage shall be *one half* part. If the recaptured vessel or goods belong to the United States, the salvage shall be *one sixth* part, if recaptured by a *private* vessel; and *one twelfth* part if recaptured by a *public* vessel.

Salvage on property of allies upon recapture.—In England, the maritime law has adopted a most liberal rule in giving to allies the benefit of *their* laws on recaptured property, unless and until it appears that *they* act upon a less liberal principle; and, in such case, it adopts *their* rule. The same liberal policy is adopted in the Act of Congress above mentioned, in its fullest extent.

Salvage, how disposed of.—By the same Act it is provided, that in cases of recapture, the salvage, if given to a *public armed ship*, is to be distributed as prize-money; if given to a *private armed* vessel, then, according to the agreement, if there be any between the parties concerned; if not, then as the court, having jurisdiction thereof, shall appoint.

In other cases of salvage, the manner of distributing it is discretionary with the court.

If one of the salvors embezzles part of the goods saved, he forfeits his right to salvage.

If apprentices are salvors, their masters are not entitled to their shares; but it shall be paid to the apprentices themselves. The master's right to the earning of his apprentices, extends only to those in the ordinary way of business, and not to extraordinary services, which have no connection with his business.

DISSOLUTION OF CONTRACTS.

Contracts may be dissolved by the voluntary act of the contracting parties; for they derive their force and validity from their consent. There is, indeed, a technical rule of law that requires the discharge of a person from a contract, by an instrument of as high a nature as the original instrument by which the contract was made, and this rule applies to the contract by charter-party under seal; but in case of a discharge by mutual consent, not expressed in this formal manner, the rule, at the utmost, would have no other effect than to render it necessary for the party to apply to a Court of Equity. In all such cases, however, prudence requires that the deed (or instrument under seal) should be cancelled and given up.

But as to bills of lading, a merchant who has laden goods, cannot insist upon having them relanded and delivered to him, without paying the freight which might become due for the carriage of them, and indemnifying the master against the consequences of any bill of lading signed by him. Indeed, the master cannot, with prudence, deliver back the goods, without having *all the parts* of the bill of lading signed by him, delivered up; for if any one of them has been transmitted to a third person, such third person may have acquired an interest in the goods.

If an agreement, lawful when made, become unlawful before it is performed, by an act of the government of the country, the agreement is *absolutely dissolved*. Therefore, if, before the commencement of a voyage, *war or hostilities* should take place between the State to which the ship or cargo belongs and that to which they are destined, or if commerce between them should be wholly prohibited, the contract for conveyance is at an end. And, probably, the same rule would apply to the same events, happening after the commencement and before the completion of the voyage, although a different rule is laid down, in this case, by the French ordinance. And it has been held, in New York, that if the port to which the ship is, by charter-party, bound to proceed, be blockaded, this produces a dissolution of the contract. This was the case of a charter-party between neutral citizens; and Sir Wm. Scott held the same rule on a charter-party between a neutral and belligerent.

But in case of war or hostilities between the nation to which the ship or cargo belongs and any other nation to which they are not destined, although the performance of the contract is rendered more hazardous, yet the contract itself is not dissolved, and each party must submit to the extraordinary peril, unless they *mutually agree* to abandon the adventure.

If the government of the country to which the ship and cargo belong, should prohibit the exportation of the particular commodities which compose or are to compose the cargo, in this case also, it seems, that the law of the country would give no damages to the owner against the merchant, who had been thus compelled, by the law of the same country, to abandon his engagement.

On the other hand, if a merchant hire a ship to go to a foreign port, and covenant to furnish a lading there, a prohibition by the government of that country to export the intended articles, neither dissolves the contract nor absolutely excuses a non-performance of it; for the laws of one nation do not give effect to the positive institutions of another, inconsistent with its own. The common exception of the restraint of princes and rulers applies only to the master.

But, in such case, it would be the duty of the master, upon his arrival at the port of lading, to obtain another cargo, if possible, from other persons, and not sullenly hoist sail and depart, in order to charge the merchant with the whole freight. And if, upon the ship's arrival, he is informed that the merchant is unable to furnish the lading, he cannot, by waiting the time appointed in the charter-party, charge the merchant with the demurrage.

But contracts of this sort are not dissolved by an embargo or temporary restraint upon their performance, imposed by the government of the country in whose ports the vessel may happen to be, as a measure of political caution in time of war, or upon expectation of it, either in the lading port or in a port at which the ship may have touched in the course of her voyage. The French ordinance provides otherwise, and authorises the merchant, in such case, to unlade the goods at his own expense, if he thinks fit, upon condition to indemnify the master.

In such a case, whatever the rule of law may be, the interest of all parties will, in general, induce them to annul the contract upon reasonable terms.

But, in case of an embargo imposed by the country of which the merchant is a subject, in the nature of reprisals and partial hostility against the country to which the ship belongs, the merchant may put an end to the contract, if the voyage is likely to be defeated by the delay. Thus, a Swedish ship, chartered by a British merchant, to go from London to St. Michael's for a cargo of fruit, which, having sailed, was driven back by contrary winds, and forced into Ramsgate harbor, and there stopped, on 15 January, 1801, by an embargo, laid by the British government on all Swedish vessels; upon which the merchant applied to the captain to give back his letters of advice, who declined doing so; and who, soon after the embargo was taken off, which happened in June, offered to proceed, but was directed by the merchant not to do it, because the season for shipping fruit was then passed, the Court of Common Pleas held, that the master could not maintain an action against the merchant for the non-performance of his contract. For, otherwise, the British subject would sustain the evils which his government intended to inflict only on *foreigners*, which is contrary to the principle now established in the law of insurance, viz. that the insurer is not answerable for a loss happening to *an enemy*, by *British* capture in a course of hostilities, whether existing at the time of insurance, or taking place afterwards.

WAGES OF SEAMEN.

Hiring of Seamen.—In the fishing trade, seamen usually serve under an engagement to receive a certain part of the profits for their services. This is rather in the nature of a partnership than a contract for hire, and is governed by the private contract of the parties, or by custom, and usage, of which it is not necessary to go into details. Our object is a consideration of contracts for the employment of seamen in the merchant service, by the month or the voyage.

The regulation of seamen in the merchant service (of which mention has been made already, page 254) is the subject of provision by an act of the Congress of the United States, passed A. D. 1790, which is printed on the back of the shipping-paper almost invariably. It provides that every master or commander of any ship or vessel bound *from a port in the United States to any foreign port*, or any ship or vessel, of the burthen of 50 tons or upwards, bound from a port in one State to a port in any other than an adjoining State, shall, before he proceed on such voyage, make out an agreement in writing or in print, (that is, the shipping-paper,) with every seaman or mariner on board, under a certain penalty or a liability to pay the highest wages given at the port of departure. The master should make himself thoroughly acquainted with this instrument, and the laws which are printed on the back side of it, which will afford him very important instruction and information upon the subject, and will amply excuse the brevity required in our remarks here.

Voyages commencing from a foreign port to the United States, are not included in the section of the statute just before noticed, and it has been so adjudged in an American Court of Admiralty. And it has also been held, that where there is no written agreement, a verbal contract might be proved for less than the *highest price*, and thus supersede the provision of the statute just noticed; and it has also been held, that, where there is no written agreement, seamen are still liable to the forfeiture of the marine law.

The act of Congress requires that the agreement (shipping-paper) should specify the voyage or term of time for which the mariner is hired. The term voyage is a technical phrase, and always imports a definite commencement and a definite termination. Where the shipping articles were for a voyage from Baltimore, Curracoa, and *elsewhere*, it was held that these words, "and elsewhere," did not authorise a voyage from Baltimore to St. Domingo. The word "elsewhere," in such a case, must be construed as superfluous and void, for its uncertainty; or else as subordinate to the principal voyage stated, and in such case, as authorising the ship, in the course of the voyage, to pursue such route as might be necessary to accomplish the principal voyage, which is no more than the law would imply. It is not *necessary* to specify the ports by name, but there must be some equivalent designation, such as to a port or ports, island or islands in the West Indies, to the Mediterranean, or the like.

The master is liable for a mariner's wages, though he has been shipped by the owner.

If, in consequence of being sick, the mariner is left in a foreign port, he seems to be entitled to wages up to the time of the successful termination of the voyage. *But where, after recovery from sickness*, the mariner might have rejoined the ship, which was on a circuitous voyage, and he did not, it has been held that he shall only have his wages up to the time when he might have so rejoined the ship, and no further.

No wages, in the case of an illegal voyage, can be recovered, nor in the case of a voyage in contravention of the provisions of a statute. No man can make claim to the wages of iniquity. Therefore, in a case where a contract had been made in a slave voyage, contrary to a statute, Sir Wm. Scott repudiated the claim for wages, with manifest indignation.

Of the earning and payment of wages.—It is obvious, that a seaman who has performed his service during the whole period of the intended voyage, is entitled to the whole of the stipulated reward, if no disaster has rendered his service useless or unproductive to the employer. As the seaman is exposed to the hazard of losing the reward of long and faithful services, in certain cases, so, on the other hand, he is allowed to receive his full wages, even when unable to render these services, if his inability proceed from any hurt he receives in the performance of his duty, or from natural sickness, in the course of the voyage. And if the master, in violation of his contract, discharges a seaman, during a voyage, the seaman will be entitled to his full wages up to the prosperous termination of that voyage, deducting, if the case require it, such sum as he may, in the mean time, have earned in another vessel. But the residue of the crew cannot claim more wages, although by the dismission of such mariner, the risk and labor become proportionably greater.

As to discharging mariners abroad. See page 259.

Where foreign seamen are shipped, at a foreign port, in a foreign ship, and in the course of the voyage are *discharged*, if the articles of shipping contain a clause, that they shall not sue for their wages in a foreign country, but shall abide by the maritime code of their own country, the courts of law, in England, will not sustain a suit for their wages.

It is held, in England, that in the ordinary case of an *embargo*, a seaman, hired by the month, and remaining with the vessel, has a right to his wages during the embargo, if the ship afterwards perform her voyage, and earn her freight; and this has been fully recognised as law in American courts.

Where a ship has been captured, and a mariner taken away from the ship; and afterwards the ship is rescued by the crew, full wages have been decreed, for the whole voyage, to the mariner taken away. So where a neutral mariner has been impressed from a neutral ship, and afterwards escaped and rejoined his own ship, or has offered to rejoin, but has been refused, *full wages* for the voyage have been decreed. *On the other hand*, where a neutral mariner has been impressed, and never rejoined the ship, either from *necessity* or *choice*, *full wages* have been denied; but *pro rata* wages (or wages in proportion to the actual service) seem to be due in the one case, to the time when the mariner might have rejoined the ship; and in the other, to the time of impressment.

In case a seaman falls sick and dies, during the voyage, it seems that his personal representatives are entitled to a proportional part of his wages, unless precluded by the specific terms of his contract. In one case, Judge Peters held, that *full wages* for the voyage should be paid, and on appeal the Circuit Court of the United States affirmed the opinion upon full argument. On the other hand, in a recent case, in the District Court of Massachusetts, Judge Davis decided, in a similar case, against the claim of *full wages*, and ruled the following points, 1st. That by general principles of law, on a contract of hire, no compensation can be claimed, beyond the death of the party hired. 2d. That the laws of Oleron, of Wisbuy, or of the Hanse Towns, do not provide, that in case of the death of a seaman on a voyage, wages are recoverable beyond the time of his death. 3d. That the intent of these ancient ordinances, in the articles relied on in this case, was to determine the operation of sickness or disability, incurred in the service of the ship, during the voyage, and to provide for the payment of wages, without deduction, on that account, either to the seaman, if he recover his health, or to his heirs, in case of his death. 4th. That it does not appear that these ordinances have, in those countries where they are peculiarly authoritative, been used, or applied, as entitling the heirs to wages for any time subsequent to the death of a seaman. 5th. That approved commentators, such as Cleriac and Valin, do not establish the construction contended for in support of this claim. 6th. That the *Consolata del Mare*, a work of approved authority, in case of an engagement *by the month*, and death on the voyage, expressly limits the wages, to be recovered by the heirs, to the time of the mariner's death. 7th. That the marine law has not been otherwise understood and received in England, but in regard to an engagement by the month, and death on the voyage, appears to be consonant to the *Consolata del Mare*. 8th. That in Massachusetts, the usage has uniformly been, to make payment of wages, in such case, only to the time of the death of the seaman, and the law has been considered as consonant to the practice.

By the common law, *anciently*, no contract was considered as apportionable. But it seems that *now*, by the common law, all laborers, by the year, or by the month, are entitled to wages up to the time of their death.

Where a mariner is sick, he is to be cured at the expense of the ship, by the Marine Law. A statute of the United States has made provision for a medicine chest. See page 256—and see also page 259.

One Cutter was hired as second mate, on a voyage from Jamaica to Liverpool; and at Jamaica, the master subscribed, and delivered to him, the following note:—"Ten days after the ship G. P., myself master, arrives at Liverpool, I promise to pay Mr. T. Cutter, the sum of thirty guineas, provided he proceeds, continues, and does his duty as second mate in said ship, from hence to the port of Liverpool. Kingston, July 31, 1798." The ship sailed on 2d August, and arrived at Liverpool Oct. 9th. Cutter complied with the terms, until his death, which was on Sept. 20th. It was proved, that the usual wages of a second mate, in such a voyage, out and home, by the month, was £4,—that when seamen were shipped by the run, at Jamaica, a gross sum was usually given; and that the usual length of the voyage from Jamaica to Liverpool was about *eight* weeks. The executrix of Cutter, who sued for wages to the time of his death, failed in the suit, in this case, being unable to prove any usage for apportioning the service, which seemed *an entire one*, by the *contract*, and not performed; and for which an extraordinary compensation, by the terms of the contract, was to have been paid, in case of full performance. The court were reluctant to pronounce this opinion; and in a subsequent case of the death of a seaman during a voyage, it was taken for granted that proportional wages were due.

The payment of wages is, generally, dependent upon the payment of freight. If the ship have earned freight, the seamen have earned wages. And as, in general, if a ship, destined on a voyage out and home, has delivered her outward bound cargo, but perishes on the homeward voyage, the freight for the outward cargo is due, and the seamen are entitled to their wages for the outward voyage, and the unloading the cargo; unless, by the terms of their contract, the outward and homeward voyages are consolidated into one. Upon the same principle, where money has been advanced to the owners in part of the freight outward, and the ship perished before arrival at the port of delivery, it has been held, that the seamen are entitled to wages, in proportion to the freight advanced. And it has been held, that if the ship be lost on the homeward voyage, the wages up to the last port of delivery, and *half the time there*, are to be paid. And it has been held, that if a ship be lost, before arrival at a delivery port, the wages are, nevertheless, to be paid, if the freight be advanced.

It sometimes happens, that a charter-party is so formed as to preclude the owner from demanding freight for the outward cargo, unless the ship brings back her homeward cargo in safety. It seems that the owners' consent to relinquish this benefit to which they are entitled, by the principles of general law, ought not to affect the seamen, *unless they also make the like engagement*, on their part; and this point has been established in an American Court of Admiralty.

A clause is sometimes in the shipping paper, that no wages shall be due, or claimed, until the return of the ship to her home, and the cargo, or ballast delivered—the proper construction of this clause seems to be, that the parties could only intend to apply it to the *time* and *place* in which the wages shall be *legally demandable.* But where the cause is so framed as to *preclude all construction*, and such an intent of the parties is *plainly expressed*, the only question for consideration is the legality of such a stipulation.

In an engagement by seamen, that their wages shall depend upon the earning of freight, conformably to the *engagements with the freighter*, there is nothing inconsistent with the provisions for their regulation and government. *They may, if they will, connect their right of wages*, with the owners' *right to freight*, upon a voyage comprising more than one port; for such would be a fair transaction, *if there be a full and fair disclosure by the owners* to the seamen. But the freight earned in a voyage, is a *common stock*, and, in the hands of the owners, is a trust fund, to be accounted for to those whose industry produced it. A clause which should stipulate that he who bears the labor and hazard of acquiring the common stock, shall bear all the loss, and not participate even the wreck of a profit, is not consistent with any just notion of a partnership of common interest. It is wholly incompatible with every idea of a trust, to permit one to eat up the whole estate. And as an agreement to grant or cede, it is wholly destitute of all *actual*, as well as moral, or equitable consideration, it is merely *void*. It is, in its nature, *fraudulent*, as to *one of the parties*. And with a view to public policy, it is equally reprehensible, from its tendency to separate the interest, from the duty of sailors, and induce them to repair, by embezzlement, the loss to which such an agreement would subject them. It has therefore been held, that *the only legal effect of such a stipulation* is to preclude seamen from libelling for wages in foreign ports, until the vessel return, or the voyage be ended; and that it is *invalid* to produce a forfeiture of wages. Freight must *always* be considered the mother of wages, and *notwithstanding any agreement to the contrary*, where the former is *earned*, the latter *must be paid*. And in a suit in the Supreme Judicial Court of Massachusetts, Chief Justice Dana declared, that the *court*, in such cases, *were bound to protect seamen* against the *craft and subtilty of a merchant*, and their own *thoughtlessness and inconsideration*.

In one case, however, but of a very different character, the seaman failed to recover his wages. I state it from its peculiarity. Perhaps it may not be considered to militate with the above, as it appears to have been a deliberate contract, with full knowledge, and due consideration, and evidently free from fraud or imposition. The shipping paper contained this clause: "And we do *further agree* and consent to ship for the above-mentioned voyage," (which was from Salem to Hamburgh,) "and any other ports, the master deems it best to proceed to, and back to Salem; and that if any capture is made of said brig or cargo, by any vessel of war, or any persons whatsoever, and the vessel and cargo are condemned, or restrained from the owners, then we agree, that our wages, that may be due to us, shall not be paid to us, or any part thereof, by the owners of said brig and cargo, until they recover back said brig and cargo, or receive compensation for the same; and if not recovered back, and no compensation therefor, then we agree to bear the loss of all our wages, and to be satisfied and contented with nothing more from the owner, than our month's advance wages, which we have received. The brig sailed to Hamburgh, discharged there, took in another cargo, and sailed to Surinam, discharged there, and took in another cargo, and sailed for Salem, but was captured on her passage to Salem. She was condemned, and no compensation was ever received by the owner. The cargo was insured for the full value, and the brig to two-thirds of her value; which insurance had been paid; but there was no insurance on the *freight*. The court held the mariners' contract valid, and binding upon them.

If, after hiring seamen, the owners do not send the ship on the voyage, the seamen are to be paid for the time during which they may have been employed on board. And if they sustain any special damage, it is reasonable also, that they should recover such damage by an action upon the agreement;—and Admiralty Courts, according to their discretion, will allow the seamen a proper compensation. In France, it is otherwise, and full wages, for the entire voyage, are, in some cases, allowed.

If a ship be seized for debt, the mariners have a right to wages up to the time of seizure.

Where a *French seaman* claimed his wages from a ship, which had changed her voyage from that for which he entered, by a contract, in a French port of outfit, an American Court of Admiralty decreed his wages. The court considered this case to depend upon the French Ordinance.

A ship earned freight at one port of delivery; but was unfit to proceed from a port at which she touched, in the course of the voyage. A seaman refused to proceed in a vessel provided for the transportation of the cargo, and claimed wages, and additional allowance. The court refused him wages, or additional allowance, for the latter part of the voyage.

Where a voyage is broken up for the interest of the owner, additional allowance is given to the seamen. *The allowance given seamen*, when voyages have been broken up, (where such allowance is due,) has been *one month*, if the voyage is broken up in the West Indies; *two months* if in Europe; *three months* if in India; and in one case, under peculiar circumstances, *four months* were allowed. An owner may find seamen their passage home, or allow them additional wages.

Where the voyage is broken up because the ship was unseaworthy in the ouset, the owner is delinquent, and is answerable for all the consequences.

When seamen are sent home at the owner's expense, they are allowed wages, according to the contract.

Where the voyage is changed by voluntary deviation, the seaman has his option to go the new voyage, upon the terms of the old contract; and if he chooses to go home, he must be furnished with the means, and reasonable pay, according to the rate agreed. If the change is with the intention of procuring hands at lower wages, or to afford an excuse to the master to discharge the mariners, without lawful cause, wages, for the voyage originally contracted for, are recoverable, and have been decreed. *Full wages are due when the discharge is not for lawful cause.*

If sufficient of the ship be saved, the mariners are to have their full wages. The contract of sailors is a species of co-partnership with the owners. *If all is lost the sailors lose their wages;* but if all is *not* lost, that which remains of *ship* and *freight*, is a common property, pledged for the payment of wages. *Freight gained*, and put on shore, in the course of the voyage, is saved from a subsequent shipwreck. It goes to the common stock; and *like the savings from a wreck, is, to the last nail and cable-yarn hypothecated* (or pledged) *to the wages.* Even after abandonment to the underwriters, it is pledged in their hands to the sailors.

Where ship and cargo were abandoned at sea, and the crew took seven boxes of the cargo in the boat, which were afterwards carried into the port of destination by the crew of another ship, the court held that no *wages*, as such, were due; because no freight was earned; but the mariners might be entitled to a compensation, in the nature of *salvage*, as an equivalent lien, on the goods saved in the boat.

The insurer *on the ship, is bound to pay the owner the seamen's wages*, which the owner has been compelled to pay—the insurer having received salvage from the wreck, beyond that amount. In the case which decided this point,—the ship had been wrecked in her homeward voyage, and the cargo and freight wholly lost. The whole wages to the time of the loss were allowed.

By our law, a seaman is entitled to receive one-third of his wages due, at every port where the ship unlades, and delivers her cargo, before the voyage is ended; *unless the contrary is expressly stipulated* in the contract.

What constitutes a part of delivery. If the ship be bound on a trading voyage, to go to some ports with a cargo, and to others in ballast, it has been a question, where the ship has been afterwards lost, whether wages were due beyond the last delivery of cargo. The following case is in point. A ship went on a trading voyage to the Bay of Honduras for the purpose of loading with woods and other productions of that coast; and, after going to several ports, was wrecked on her passage to Jamaica. Judge Peters held, that freight does not always imply that it is hire for the transportation of goods. It is applied to all rewards, hire, or compensation paid for the use of ships, either for an entire voyage, or divided into sections, or engaged by the month, or for any period; and although the ship sailed to Honduras in ballast, yet *the object of the voyage there was accomplished*, and the hirer of the ship must pay, in such case, *empty for full;* and, therefore, he decreed wages to be paid to the Bay of Honduras.

If the parties stipulate that the vessel shall proceed to A. to receive a cargo, and proceed thence to B., there unlade the same, take in another cargo, and proceed to C., upon the arrival and delivery of which last cargo at C. a certain freight shall be paid, and not otherwise; the voyage does not terminate until the arrival at C., nor are A. and B. ports of delivery at which freight is earned. But this construction arises from the agreement of the owner and freighter. *It can in no wise affect the seamen's rights*, in relation to whom the agreement has *no operation.* As to *them*, every port where an outward cargo is unloaded, is to *them* a port of delivery, and *wages to that time are earned.*

But where a voyage was from England to Spain, *with a load of fish to be caught on the banks of Newfoundland, where the ocean, and not a port of delivery* afforded the cargo, the voyage was considered, in its nature and objects, *entire.*

So where a ship at Havana was hired to go to New Providence in company with Spanish troops, at a certain sum per ton. The ship went there and received her payments, and afterwards was *captured, and the money lost on her voyage home.* The Court held that here was *an earning by the owners.* It is called freight by the hirer of the ship, and is certainly *a compensation for the use of the ship*, and the whole object of the voyage was completed at New Providence. This may be considered a *port of delivery.* With the loss afterwards the sailors have no concern.

The Act of Congress, regulating seamen in the merchant's service, of 20th July, 1790, provides that "*as soon as the voyage is ended and the cargo or ballast be fully discharged* at the last port of delivery, every seaman or mariner shall be entitled to the wages which shall be then due, according to his contract, and if such wages shall not be paid in *ten days* after such discharge," authorizes admiralty process against the master and the ship. And it has been held, by Judge Peters, that the ten days run from the end of the voyage, and not from the unlading of the cargo; but occasionally, he said, he had allowed *fifteen* working days where the circumstances of the case seemed to require them; but the propriety of this extension may very possibly be questioned.

The same Judge has intimated an opinion, that although seamen are bound to *unload and reload the ship* in a *foreign port* of delivery, under the penalty of forfeiture of wages, yet that, on the homeward passage, their duty ended with the arrival of the ship at her last port of delivery, and being there safely moored.

And the wages seem to be due wherever the master discharges the mariner, although the voyage be not completed, and such mariner is then entitled to recover his wages, consistently with the articles.

Loss and forfeiture of wages.—If, by any disaster, happening in the course of the voyage, such as the loss or capture of the ship, the owners lose their freight, the seamen also lose their wages. *And if the ship and freight be insured*, and a recovery of the loss had by the owner, yet this will not entitle the mariner to wages.

Where the ship becomes unseaworthy in the course of the voyage, wages have been decreed up to the time when the mariner, who refused to go on in another vessel, left the ship. *But if the ship was unseaworthy at the beginning of the voyage*, it seems that the owner would be a delinquent, and that the seamen might claim wages, as in the common case of a voyage broken up by the owner.

In case of a capture and subsequent release, after which the vessel performed her voyage, and received full freight money, a mariner, who shipped for *monthly wages*, was taken out by the privateer ship, carried to France, and detained as a prisoner two months, and then released; after which, as soon as he could, he took passage for Boston, the port of outfit, where he arrived two months after his release, recovered his full wages *up to the time of his arrival at Boston*, he not having earned any, in the mean time, in any other employment. It was considered that *capture does not extinguish the claim for wages unless it is followed by condemnation.*

Where an American ship delivered her cargo at Liverpool, and was captured on her return voyage by a French privateer, *and recaptured* by an English frigate, and restored, on payment of salvage, and *completed her voyage*, a mariner who had been taken out and carried to France, and there released, recovered his *full wages* for the voyage, deducting a proportion of salvage. This was the case of a *neutral seaman.* It had been otherwise in case of a *belligerent* seaman. But where, in such case, the seaman, after his release, might have rejoined the ship, wages would be decreed to him only to the time when he might have so rejoined her.

Condemnation does not defeat the claim of wages for a former part of the voyage, in which freight was earned.

In cases of capture, seamen are bound to remain with the ship *until a first adjudication* had; but not longer, even though an appeal be entered. A voluntary abandonment of their duty, in this respect, is a forfeiture of wages. But if prevented by the captors from remaining on board, or if they are without the means of subsistence, or are discharged by the master, they are not chargeable with any default. They are *entitled to wages while they remain* with the ship, and the *master is bound* to furnish them with subsistence.

Where a ship is abandoned at sea, as a wreck, no freight is earned, and *no wages are due.* The forsaking of the ship is a dissolution of the contract, and the mariners are discharged from the ship. *If they save any thing*, they become entitled to a compensation as salvors.

Forfeiture of wages.—Desertion from the ship is held a forfeiture of the wages previously earned. *But every quitting of the ship is not a desertion.* If it be done for justifiable cause, the mariner shall have his wages. Where a ship had been taken and brought into port, and the seamen went on shore, and on being required to get on board again, said they had no victuals for the day, and only requested to stay till they had some, and being left on shore, returned the next morning, and the master then refused to receive them, it was held, that the conduct of the seamen did not amount to desertion; that their request was reasonable; that they had no intention to abandon the ship, and that the master should not be entitled to consider them guilty of desertion.

So, where the mate of a ship was severely beaten by the captain several times, and degraded to the situation of a common sailor, the mate at length quitted the ship. Lord Kenyon, before whom his case came, held, upon the facts which appeared in the case, that he had not *deserted.* He said "there are reciprocal duties between master and servant. From the servant is due obedience and respect; from the master, protection and good treatment. *Desertion is a forfeiture of wages*, but if the captain so conduct, that the sailor cannot, without damage to his personal safety, continue in his service, human nature speaks the language, that the servant has a right to secure his personal safety." Desertion must be a *voluntary* act, not *caused* by any act of the captain. And where a ship was cast away, in a perilous situation, and wholly unable to prosecute the voyage, and the seamen quitted, without leave, and were arrested and imprisoned, Judge Peters, under the circumstances, held the voyage broken up, and that the conduct of the mariners was not desertion, and discharged them from imprisonment.

The act of Congress of 1790, already mentioned, and which is printed on the back of the shipping paper, provides for a memorandum in writing, of the day and hour on which the seamen shall render themselves on board; and neglect by a sailor so to render himself being noted in the log-book, on the day of such neglect, and the time he so neglected to render himself, after the time appointed, subjects the sailor to a penalty of one day's pay for every hour of such neglect. And a mariner, who, after shipping, shall wholly neglect to render himself on board; or, having rendered himself on board, shall afterwards escape, shall forfeit and pay the owner, master, or consignee, a sum equal to that which shall have been paid to him, by advance, at the time of signing the contract, over and besides the sum advanced. And every mariner, having signed the contract for shipping himself, who shall absent himself, without leave of the master or commanding officer on board, the officer having charge of the log-book, shall make an entry therein of the name of such mariner, on the day he so absents himself, and if such mariner shall return to his duty within 48 hours, such mariner shall forfeit three days' pay for each day of such absence, to be deducted out of his wages; but if such mariner shall absent himself for more than 48 hours at one time, he shall forfeit all the wages due to him, *and all his goods and chattels which were on board, or in any store, where they may have been lodged at the time of his desertion*, to the use of the owners, and moreover shall be liable to the owners for all damages, &c. &c.

On these clauses it has been decided in Massachusetts, that the mariner, who, after shipping, does not render himself on board, is not only liable to the first penalty above mentioned, but also to the additional penalty of forfeiture of all his goods and chattels last mentioned. But the Court held that the first penalty applied exclusively to absence and desertion *in the port of departure*, and the last penalty exclusively to absence and desertion, in the course of the voyage, *at any other port. The entry of absence in the log-book is indispensable*, and it must be stated whether the absence is *with* or *without leave*. Stating that the mariner left the ship is not sufficient, and no *verbal* testimony can be admitted to prove the desertion. It must be proved by an entry at the time, and by the proper officer. But, although the entry on the log-book is evidence of the fact of desertion, yet it is not *conclusive evidence* of it. But if the mariner has been absent more than 48 hours, *and has deserted*, yet the forfeiture of his wages is remitted by receiving him again on board. It operates as a release. This is the general rule; but where a mariner has incurred the forfeiture of one day's pay for each hour in which he failed to render himself on board after the time appointed in the shipping articles, the receiving him on board is not a release of the penalty. This is an exception from the very nature of the thing, for, otherwise, the provision in the statute would be nugatory. The wages forfeited by desertion are the wages already earned; subsequent wages are not included. *Neglect of duty, disobedience of orders, habitual drunkenness, or any cause* which will justify a master in discharging a seaman during the voyage, will also deprive the seaman of his wages. But although the seamen conduct ever so improperly, yet, by the marine law, these offences, so far as they affect contracts, are pardoned on repentance, compensation, or offer of amends, and return to duty. Public policy and private justice, as it is fit they should, here move together. In one case it was held, that a promise of forgiveness by the master, restored mariners who had *endeavored to make a revolt*, to their wages.

If a mate be degraded for incapacity or ill conduct, the Court will reduce his wages accordingly.

Embezzlement or injury of the cargo by the fraud or negligence of any of the seamen, so that the merchant has a right to claim satisfaction from the owner or master, subject the offender to damages or the loss.

And it has been held, that where embezzlement is fixed upon some of the crew, all are bound to contribute, and that no one is excused from the general contribution, though absent from the ship, and not in a situation to aid in the plunder. But all the sailors are not bound to contribute in case of the embezzlement of the master's effects. Yet, where goods were stolen in the night from a ship, the crew being then on shore by leave of the commanding officer, the Supreme Court of New York held, that the crew were not bound to make good the loss; and Chief Justice Kent doubted, whether the liability of sailors to contribute, in cases of embezzlement, had not been carried rather too far. The Admiralty Courts will deduct, from seamen's wages, all contributions for casks stove by negligence, and other damage sustained by their misconduct. But the owner cannot retain the wages to answer *contingent* damages.

A SUMMARY OF THE LAW OF MARINE INSURANCE.

THE CONTRACT OF INSURANCE, AND THE PARTIES TO IT.

Insurance, or assurance, is a contract by which one party undertakes, in consideration of a stipulated sum, to indemnify the other against certain perils to which he is exposed, or against the happening of some event. *Marine insurances* are made on the *ship;* on the *goods* or *merchandise*, that is, the articles which compose the cargo; on the *freight*, that is, on the earnings of the ship; and on *Bottomry Loans*, which latter, being itself an insurance, is in the nature of a *reassurance*. The law of Marine Insurance is a branch of the *Marine Law*, and a branch of the *Law of Merchants*, which consists of general principles which common convenience has established, to regulate the dealings of merchants in all countries. Besides the general law of merchants there are *particular usages* which have the force of law where they prevail; and an insurance contract is construed as having reference to them; but these must appear to be *immemorial*, or else they must be as old as the subject matter to which they relate;—they must also be *reasonable*, or rather *not unreasonable;* they must also be *legal*.

Parties to the contract;—and first, *who may be insured*. All persons, subjects or aliens, may be insured; the principal, perhaps the only exception, is that of an alien enemy. *An alien enemy* cannot maintain an action on a policy of insurance on goods, though shipped before the war commenced, nor can his agent do it, though he be a creditor of such enemy; but this disability, according to the best opinions, seems to be only a temporary bar, which does not continue after peace is established. And it is held, in England, that an action cannot be maintained on the property of an alien enemy, exported thence, although of British manufacture. But a *neutral, residing in an enemy's country*, and trading in partnership with an enemy *there*, may insure his interest in the joint property. And a neutral's property may be insured, though bound to an enemy's port. And it is also held in England, that if the king license trade with an enemy, then it is lawful to insure it. An action was sustained by the Supreme Court of Massachusetts upon a policy on a Sidmouth license, valued at $2000, and claiming for a total loss.

2d. *Who may be insurers.*—Every man or company of men may be insurers, and corporations are created with powers to insure. In England, two corporations, viz. the Royal Exchange Assurance, and the London Assurance were, in 1720, established by Royal charter; and to these was given the monopoly of all insurances and bottomry bonds during the continuance of the corporations.

THE SUBJECT MATTER OF MARINE INSURANCES.

These are *ship*, *freight*, and *goods;* but there are certain articles which cannot be insured, or whose insurance is restrained upon grounds of policy. No insurance can be made on smuggled goods. It is a general rule of all maritime States, that no insurance can be made on goods intended to be imported or exported, contrary to law. And the insurer may take advantage of this objection, though he knew the trade to be illegal; and the Courts permit this, not for the sake of the objector, but in obedience to law. A policy against the common or statute law, against the law of nations, or against a treaty, is void; otherwise, as to the revenue or municipal laws of a foreign state; and if the insurer know of this trade, the policy will bind him; but although the policy will not be void, yet if a ship insured be navigated in violation of the laws of a foreign state, and be seized for that, or for not paying customs, the insurer will not be held on the policy. So if an embargo be laid, and a vessel, which is insured, sail in violation of it, the insured cannot recover. So all trading with an enemy being unlawful, insurance thereon is void; a cartel ship is not authorised to trade in a single article. There cannot be a war for arms, and a peace for commerce; but there are exceptions, viz. the case of a license as above mentioned; and where goods were shipped, and the vessel sailed before the war was declared, and an honest, *bonâ fide* withdrawing funds from an enemy's country; but, in such case, it is best to get a license, if practicable. So bills, drawn by prisoners of war, in an enemy's country, may be good. It has been held, that when an American ship sailed, in time of war, with a British license, insurance on it here is valid.

Contraband of war.—Neutrals must be strictly impartial. To what extent *neutrals* may trade with *belligerents* has been much controverted, and it must be owned that much depends upon the power of the nation which claims the right. Several articles of commerce are in use only in war, viz. arms, ammunition, and warlike stores; some are of no use in war, and some are useful both in peace and war, as money, provisions, horses, ship's naval stores, &c.; the first are, always, by either belligerent, when sent to the other, and the so sending them is inconsistent with neutrality. As the law of nations now stands, the prohibition of provisions extends only to places blockaded. And not only the articles first enumerated, but also horses and furniture, pitch, tar, sails, hemp, cordage, masts, yards, and all necessaries for ships, are generally considered contraband by the law of nations. What shall be so considered between particular states is often regulated by particular treaties. As to places beseiged or blockaded, all commerce with them, and ingress and egress, without permission, is prohibited; but the power which undertakes a blockade, ought to give notice of it to neutral nations, after which, no neutral state is permitted to plead ignorance of such blockade. There is a difference between a *regular blockade* and a blockade *de facto;* in which case the ignorance of the party may be received as an excuse. The British government, in 1799, declared that the ports of Holland were all beseiged and blockaded.

Right of search.—It would be impossible to prevent the transportation of *contraband goods*, if neutral vessels were not to be searched at sea. Hence all belligerent powers assume this right, which, though formerly resisted, is now well settled; and if a neutral ship should refuse to be searched, or to produce her papers to a belligerent, it is held good cause of condemnation, which would discharge the underwriters.

Warlike stores sent to an enemy is criminal, and insurance on them would be criminal and void; and though they are sent by a neutral, insurance on them is void.

Insurance on any trade, in contravention of an embargo imposed by the government, is void.

Insurance on wages and effects of master and mariners. It is the policy of all maritime states to use every precaution to prevent the desertion and unfaithfulness of seamen, and interest them in the preservation of the ship, and to excite them to exertion in time of danger. It has been shown, page 302, that by our laws they can only receive a *portion* of their wages due, at any time before the end of the voyage;—and the law, upon the ground of policy, does not permit them to insure their wages, and renders such insurance void; nor can they insure any thing in the nature of wages; as privilege shares. Even where the captain, to induce the seaman to stay, gave his note, payable in all events, the captain was permitted to urge in defence, when sued upon it, that the note was against law. *But seamen may insure goods* purchased with their wages abroad; —*and the master may insure his goods on board. Freight*, not actually earned, cannot be insured in France. *But in England, and in the United States, freight unearned may be insured*, but the risk upon freight does not commence while the ship is *only preparing* for the voyage; yet if part of the cargo has been shipped, the risk attaches, and the insured upon a *valued policy* shall recover the whole freight, in case of loss. So if the ship sail, on the voyage to the port where she is to take in her cargo, this will be a commencement of the risk.

Slaves were formerly insured as goods, but this abominable traffic has now become unlawful. Reasonably expected profits may be insured in some countries. In Italy this is common. In France it cannot be done. In England, it is not unusual to insure profits by name; yet the question, whether this is lawful, does not seem to have received, there, a solemn discussion; however, a reasonable expectation of profit has been adjudged an insurable interest; but this was not the case of insurance on profits by name, and this, too, was the case of a valued policy on goods, profits expected being included. It would have been very difficult to estimate the loss, had it been an open policy. The law seems to be adopted by us.

OF THE INTEREST OF THE INSURED.

What is an insurable interest. Insurance is a contract of indemnity from loss, or damage, arising from an uncertain event. Its object is not to make a positive gain, but to avert a possible loss. A man cannot be said to be indemnified against a loss, which can never happen to him; and there cannot be an indemnity without a loss, nor a loss without an interest. A policy, therefore, without an interest, is not an insurance, but a wager. But those, who have only a qualified property, have an insurable interest,—and if a merchant abroad, mortgage his interest in certain goods and freight, to his creditor; after the mortgage becomes absolute, the creditor may insure the legal interest, on his own account, and the equitable interest on account of the mortgager. And it has been already observed, that a well-founded expectation of profit, or a well founded expectation of future interest in a thing insured, is an insurable interest. Trustees of ships and goods, according to their instructions, from third persons, may insure for the benefit of those who may be eventually entitled to them.

A trustee, consignee, or prize agent, may insure. The captain may insure his prize. A person, for whose benefit another has goods in trust, has an insurable interest, although his is not a legal, but only an equitable title. A general agent, to whom a consignment devolves, in consequence of the consignor's refusal to take the goods, has an interest to insure them, as agent; or in his own right, if he has accepted bills on account of them. But an insurable interest can only be founded upon a legal or an equitable title. Bottomry and Respondentia loans are, in themselves, a species of insurance; yet the lender has an insurable interest in the securities, and may insure them against the sea risk; and this is in the nature of re-assurance. A policy on Bottomry or Respondentia cannot be subscribed by the lender; for he is paid for the sea risk; and if he insured it, it would no longer be a Bottomry loan, but a mere cloak for usury.

Wager policies. There are few well-regulated governments, where gaming is not laid under much restriction. A wager policy has nothing in common with an insurance, but the name and form. The form is usually conceived in the terms "interest or no interest;" or "without further proof of interest than the policy," to preclude all inquiry into the interest of the insured. It is obvious that, in such a case, there could be no liability for a partial loss. The intent of the parties is to play for the whole stake;—and the underwriter could not claim a benefit from any thing saved; to preclude this, the words "free of average, and without benefit of salvage" have been always introduced into wager policies. Such policies are void in Great Britain, and in the United States. And it seems, that insurances cannot be made, upon one thing, to depend upon the fate of another; as goods, upon the fate of the ship;—and a small interest at stake, where a wager is intended, will not legalize the wager.—It is not a contract for indemnity. And if a valued policy is only a cover for a wager, it is void. A valued policy on profits reasonably expected, as consignee, is good.

The insurer upon any lawful risk, has an interest which he may insure. This is called re-assurance. It may be made when such insurer wishes to be relieved from his responsibility. The new insurer, in such case, is only liable to the first insurer, and not to the original insured, even though the first insurer has become bankrupt. Such is the common law; but, in England, a statute, passed in the reign of George 2d, makes a re-assurance unlawful there, unless the insurer has become bankrupt, or die, in which case, such insurer, his executor, administrators or assigns, may make re-assurance, to the amount before insured, provided it be expressed to be re-assurance; and this extends to foreign as well as British ships, even when insured abroad. It is questionable whether this statute has been adopted in the United States, particularly in Massachusetts. There are two other kinds of re-assurance—1st, where the insured insures the solvency of the insurer. 2d. Where he makes a re-assurance in consequence of the insolvency of the insurer during the continuance of the risk.

The first has never been in use in England, because Double Insurance (of which, next in order) answers better.

In France, in case of the insurer's insolvency during the continuance of the risk, the premiums being generally unpaid, the risk is up, and the insured may dissolve the contract; unless the insolvent's creditors will give security in the event of loss.

Double Insurance. This is where the insured makes two insurances on the same risk and the same interest. It differs from re-assurance in this, that it is made by the insured, that he may have a *double satisfaction*, in case of loss. Double Insurance, though in the nature of a wager, is not void by the English law. The two policies are considered as making but *one* insurance. The assured shall be permitted to have one satisfaction only. He may sue on both policies, but can only recover the real amount of the loss; and all the underwriters shall contribute in proportion, and this doctrine has been held to be law in Pennsylvania. It seems a necessary consequence, that if he sue on one only, its underwriters may make the other underwriters contribute. Though only a single satisfaction can be recovered on a double insurance, by the same person, yet *different persons*, having different interests, may insure the same thing, and each recover the full value; but if the whole loss be recovered against one, he ought to stand in the place of the insured to receive contribution. But the more modern policies of insurance, particularly those now in use, in Boston, and Portland, and probably in most other ports of U. S. seem to put at rest all questions concerning double insurance; for this clause is contained in them, viz. "and it is hereby agreed, that if the insured shall have made any other assurance upon the" &c. "aforesaid, prior in date to this policy, then the said Insurance Company shall be answerable only for so much as the amount of such prior assurance may be deficient towards fully recovering the property at risk, whether for the whole voyage, or from one port of lading or discharge to another;—and the said Insurance Company shall return the premium, or a rateable part thereof," &c. "and in case any assurance upon the said" &c. "whether it be for the whole, or part of the voyage, subsequent in date to this policy, the said Insurance Company shall, nevertheless, be answerable to the full extent of the sum by them herein assured, without right to claim contribution from such subsequent assurers; and shall, accordingly, be entitled to the premium by them received, in the same manner as if no subsequent assurance had been made."

Various persons may insure various interests on the same bottom. A factor, to whom a balance is due, has a lien on all the goods of his principal, and may insure them. It has been supposed, but not decided, that an underwriter, who insures with notice of a former insurance, is liable to a total loss. The clause in modern policies, just mentioned, settles that affair. A defendant, sued on a policy, may compel the plaintiff to declare how much he has insured in the whole, and how much borrowed on bottomry and respondentia. *Double insurance* and *re-assurance* are not regarded with a favorable eye by our courts. They are generally exposed to a suspicion of fraud, or that they partake of the character of gaming, neither of which, if proved, would be supported.

OF THE VOYAGE.

By the voyage is meant the passage of the ship from one port to another, or to several ports. The voyage, with respect to the traffic of it, is sometimes called illegal, only because the trade is so; but the voyage may be perfectly lawful, yet the transportation of certain goods prohibited; or the voyage may be illegal, and the transportation of the goods lawful.

No insurance can be lawfully made on any voyage undertaken contrary to the laws of the land, or contrary to the law of nations; and it is immaterial whether the insurer was, or was not, informed of the illegality; the law will not lend its aid to enforce a contract made in contravention of law.

If an *integral voyage* be, in any respect, illegal, in its *commencement*, no insurance can be effected on any part of it, although such part, taken by itself, would be legal.

THE RISKS AGAINST WHICH MARINE INSURANCE MAY BE MADE.

The perils of the sea, in the largest signification, comprehend all those accidents and misfortunes, to which ships and goods are exposed, at sea, from causes which no human prudence could prevent or control. Yet we distinguish those which arise from waves and tempests, rocks and quicksands, which are, strictly, perils of the sea, from such as may exist, when the winds and waves are propitious,—as will be noticed when we come to treat of losses.

We may divide the subject of risks into six parts, and consider, 1. Against what risks insurance may be made. 2. What risks are within common policies.

3. What are excluded by the common memorandum. 4. To what risks the master and owner are liable. 5. What shall be the commencement, continuance, and end of the risk. 6. When the risk may be changed. And—

1. *Against what risks insurances may be legally made.* It may be made against all marine risks; subject, however, to certain exceptions, founded in public policy, and the rights of humanity. But, on principles of natural justice, the insurer cannot make himself answerable for any loss or damage proceeding directly from the fault of the assured; nor even against the damages of the seas, upon illegal commerce. Of course, there can be no insurance, as formerly there was, upon slaves, which were once insured as goods.

2. *What risks or perils are within common policies.* They are usually contained in these words:—" Touching the adventures, and perils, which we the insurers are contented to bear and to take upon us, in this voyage, they are of the seas, fire, enemies, pirates, rovers, thieves, surprisals, takings at sea, arrests, restraints and detainments of all kings, princes, and people, of what nature or condition and quality soever; barratry of the master, unless the assured be owner of the vessel, and of mariners, and of all other perils, and losses, and misfortunes, that have or shall come to hurt, detriment, or damage of the said goods, and merchandise, and ship, &c. or any part thereof, without prejudice to this insurance "—words which seem to embrace every misfortune which can happen in time of peace.

3. *What risks are excluded by the memorandum.* By agreement of the parties, the general words, (embracing all risks) may be altered or qualified, and any of the risks wholly, or in part excluded, and the insurance made against certain risks only, or up to, or beyond certain degrees, or upon particular articles. To make such an alteration, and effect all, any, or either of these changes of the general terms of the policy, is the office, and the design of the *memorandum.*

To confine insurance to an indemnity against important losses only, and to obviate disputes, arising from the perishing quality of goods insured, and all trivial subjects, it is generally provided, that the insurer shall not be liable to any partial loss, under a certain fixed rate per cent. Boston and Portland policies preclude claims to partial loss on Sugar, Flax seed, Bread, Tobacco and Rice, unless the loss amounts to 7 per cent. on the whole aggregate value of such articles—and all partial loss on Salt, Grain, Hemp, Fish, Flax, Fruit, Hides, Skins, and other goods esteemed perishable in their own nature, unless it amount to 7 per cent. on the whole aggregate value of such articles, and happen by stranding. It also precludes all partial loss under 5 per cent. on other goods, vessel, and freight;—excluding, in each case, all charges incurred for ascertaining and proving the loss. As it has been stipulated in policies, generally, that upon certain enumerated articles, (very perishable,) the insurer shall not be liable for partial loss; and that upon others, liable to partial injuries, but less difficult to be preserved at sea, the insurer shall only be liable to partial losses above 5 per cent. Our policies have fixed this at 7 per cent. And that, as to other goods, and also the ship and freight, he shall be liable only for partial losses above 3 per cent. Our policies fix this at 5 per cent. This clause, excluding small losses, was first introduced into policies in 1749, to save the necessity of adapting the premium to the nature of the commodity.

But the insurer is liable to losses, however small, called *general average,* and losses occasioned by the *stranding of the ship*, if above 7 per cent.

There is a considerable diversity in the enumeration of memorandum articles. In a form of policy now in use in Paris, the exception extends to *salt, fruits, unwashed wool, glass-ware, porcelain,* and all articles subject to breakage, or rust.

In English policies, the same exception extends to corn, fish, salt, fruit, flour, and seed; and in some policies, to hides and tobacco.

In New York, the exception is more numerous, and extends to salt, dry fish, fruits, whether preserved or otherwise, grain, hempen yarn, hides, skins, bar and sheet iron, iron ware, tin plates, tobacco, indian meal, cheese, vegetables and roots, cotton bagging, pleasure carriages, household furniture, musical instruments, and looking glasses.

In Philadelphia, they are usually salt, dried fish stowed in bulk, wheat, indian corn, and grain of any kind, malt, and bread stowed in bulk, and leaf tobacco, or, in some policies, tobacco stowed in casks.

In Baltimore, the enumeration is less uniform than in other ports of the United States. In the different policies used there, the articles are salt and dried fish ; or, in some policies, dried fish stowed in bulk, fruit, peas, seed, indian corn, and, in most cases, indian meal, wheat, and all kinds of grain, with the exception of rice, in some policies ; hides, with the addition of pelts in some policies, and of skins and furs in others ; malt, bread, cocoa, and coffee stowed in bulk ; tobacco, or, in some policies, tobacco in casks, and liquids, or liquids in casks ; but this kind of article is sometimes omitted.

In Charleston, the articles within this exception, are salt, dry fish, fruits, grains of all kinds, indian meal, flour, coffee in bulk, cheese, bacon, vegetables and roots.

In one used at Savannah, they are the same as at Charleston, with the omission of flour, and the addition of cotton bagging, and ognaburgs.

What constitutes a stranding within the meaning of the exception.—In one case, the jury found a *stranding* where the vessel took the ground and bilged, so as to be incapable of proceeding on her voyage ; in another, where the vessel was driven aground in the Thames, and remained aground an hour, it was held *not to be such a stranding*. Where a vessel run upon piles and rested until they were cut away, it was held to be a *stranding ;* but where a vessel struck upon a rock, and rested only a minute and a half, it was held *not to be a stranding*. Where a vessel, being fastened by a rope to the pier of the dock, took the ground, it was considered a *stranding ;* and Lord Kenyon thought a voluntary stranding of the vessel, *bonâ fide*, was a stranding within the memorandum. The doctrine adopted seems to be, that, *after a stranding*, the construction of the policy is the same in regard to all losses as if the clause relative to stranding was not contained in it. The clause " unless such partial loss shall amount to," &c., " and happen by stranding," are held to make an *exception*, and not a *condition*.

And if the articles from which the insurer is free from average, except general, specifically remain after the voyage, though by sea damage they are of no value, yet if the ship has not been stranded, this is only a partial loss, from which the memorandum saves the insurer ; for, in such case, the insurer has never been liable, except for a *total loss* upon the enumerated articles.

Where a *mob of rioters* boarded a ship, and obliged the captain to sell a quantity of corn at an inferior price, the loss is not held in the nature of a general average ; but if, in consequence of this boarding, the ship be stranded, and a quantity of corn be thereby lost, this is a stranding within the memorandum. But any loss, to be within the policy, must be the *immediate*, not the *remote cause* of some peril insured against. If there be no stranding, the insured cannot recover for any loss, however great, unless it be a total loss ; and, in that case, the goods must have been totally destroyed, so as not to retain a resemblance of the article shipped. The words in modern policies, quoted above, have made it unnecessary to notice the principles of decided cases, under forms of policies, more minutely. The memorandum in relation to perishable articles, is introduced solely to protect underwriters against the damages to which they are, in their own nature, incident ; and if, from their inherent perishable quality, they reach the place of destination, in specie, although worth nothing, and there has been no stranding, it is only a partial loss, and, therefore, the underwriters are not liable.

For what losses the owner and master are liable; and, first: Losses not actually occasioned by the perils of the sea, but imputable to the owners of the ship, or to the negligence of persons employed on board, the owners are answerable for, in respect of the freight, to the owners of the goods; subject, however, to certain restrictions.

If damage happen to the goods on board by the fault of the ship, not occasioned by sea damage, but from some latent defect before sailing, here the remedy is against the owner, and not the insurer; for there is, in every insurance, an implied warranty of seaworthiness; and if the ship is not seaworthy, the contract is void.

It is also the policy of the law to hold the master, also, liable for all damages done to goods committed to his charge, whether it arise from the wilful misconduct, negligence, or ignorance of the persons on board; for he is bound to deliver the goods in the same condition as shipped, unless the injury arise from some inherent defect, or from some inevitable misfortune.

They are also liable for loss occasioned by bad stowage, thefts, embezzlement, and even rats, unless all necessary precautions are used to prevent it.

Assailing thieves, robbery, theft.—Where all proper precautions are taken to prevent and to resist a robbery, the words "assailing thieves," in the enumeration of risks taken by the policy, will render the insurers liable for a loss occasioned by a superior force which the master was not able to resist; but where such precautions and care do not exist, the insurer would be excused; and this seems to be the criterion as to the liability of the insurer or of the master and owners. Whatever could be foreseen and might have been prevented, ought to have been foreseen and prevented, or else the insurer is excused. But the loss by pirates, or assailing thieves, constituting a force which the master could not foresee nor resist, is doubtless covered by an ordinary policy.

If, through a defect in the ship's tackle, or by the fault of the master or crew, a loss happen in shipping or in landing goods, the master and owners are answerable. *And in cases of embezzlement, secreting, or making away with any goods,* by the master or mariners, without the privity of the owner, the master is liable. And, in like cases, where the owners are guilty, without the privity of the master or mariners, the loss will fall upon the owners; but as the insurer is also liable, under the provisions of common policies, for external thefts, the insurer or the owner of the goods embezzled, &c., may maintain an action for goods so embezzled, &c.

Duration of the risk.—To charge the master, the loss must happen during the continuance of the risk. Every voyage must have a *certain and definite beginning*, and a *certain and definite end.* When the insurance is for a term, the risk *begins* at the *first moment*, and *ends* with the *last instant* of the term.

In France and some other countries, when the insurance is on *goods*, if the time of the risk be not regulated by the contract, it commences when they are put on board, or into barges to be conveyed on board; that is, the moment they leave the shore.

In England, the words of the policy usually are, "beginning the adventure upon the said goods and merchandise, *from the loading thereof aboard the said ship*, and so shall continue and endure until the said ship, with the said goods, shall be arrived at"—(her port of delivery) "and until the same shall be discharged and safely landed."

In the United States, the policies generally are on the *ship*, "until she shall be arrived and be moored at anchor twenty-four hours in safety, and on the property" (goods) "until landed"—or in terms equivalent. So that, in general, our policies, in this respect, are similar to the English policies.

In general, the risk on goods continues no longer than while they are on board the ship mentioned in the policy; and if they are removed and landed, or put on board another ship without the consent of the insurers, the contract is at an end, and they have no further responsibility.

But there are exceptions, as where a ship is disabled, and the goods are put on board another, to be carried to the port of destination. So, if it be agreed that they shall be removed into another ship, at a particular place in the voyage, and there being no ship there, they are put into a store ship. *So the usage of trade*, at the port of destination, may form an exception.

Policies are to be construed largely for the benefit of trade, and with reference to the usages of trade at the place. If the insurance be to such a *city*, it is sufficient to bring them to the *port* to which goods so destined are usually sent. And the *insured* is protected by the policy in carrying goods in lighters, to any part of the port of delivery, where such goods are usually landed. *Policies, in doubtful cases, ought to be construed in favor of the insured.* But if the owner of the goods take them from on board in *his own* lighter, the insurer is discharged; yet, if there were a particular usage of the trade, for the owner of the goods to carry them to land, even in their own lighters, it would seem that the risk would continue, according to the terms of the policy, "until they were safely landed," or those words, in such cases, would be nugatory, in that particular trade. Generally, where goods are put into a public lighter, the risk continues; but where the merchant sends *his own lighter*, the putting them into his lighter is a delivery to him, and the insurer is discharged.

The consignee of goods, in the port of London, employs a common lighterman to land them. If, in the passage to the shore, the lighter is sunk by unavoidable accident, this is a loss within the policy.

The policy affords *protection in the port of delivery* a reasonable time only, till the goods can be conveniently landed. A ship is detained on the coast of Africa, before she can land her goods, in the regular course of trade; the risk continues if there be no unnecessary delay. But if the cargo be sold, without unloading, and the vendee contract for the freight of it to another port, the insurer is discharged.

The particular usage of the trade may control the general rule. A ship and goods are insured to Labrador. The goods are left a long time on board, after the ship arrives at Labrador; but this being usual in the fishing trade, at that place, the risk on the goods continues. Every underwriter is presumed to know the practice of the trade he insures in, though recently established. The usage of another similar trade may be given in evidence to show the practice of a newly established trade.

Risk on the ship.—This commences, in some countries, at the time she begins to take in her first goods or ballast, and it continues until she arrives at the place of destination, and is entirely discharged. In others, it is made to end twenty-one days after her arrival, unless sooner discharged. *In France*, if it be not regulated by the contract, it runs from the time she sets sail till she arrive at her port of destination, and till there anchored and moored in the quay.

In England, the commencement varies in almost every case. In out-bound voyages, it generally commences from her beginning to load at her port of departure. Sometimes the insurance is for a limited time; in which case it begins and ends with the term. If insurance be "*from*" a place, the risk does not commence till her departure thence. In homeward voyages, where it is "*at and from*," the risk begins from the first moment of her arrival at the place specified; and the words "*first arrival*" are implied and always understood in such policies, and it continues *there* so long as the vessel is preparing for the voyage insured; but if all thoughts of the voyage are given up, and the ship suffered to lie there, for a length of time, with the owner's privity, the insurer is not liable. *In English policies*, as in ours, it is usually made to continue till the ship hath been moored at anchor twenty-four hours in safety. In Massachusetts, in an action upon a policy upon a ship where the end of the risk was to be when the ship arrived at her port of discharge, and moored at anchor twenty-four hours in safety, and the fact was, that the ship arrived at her port of discharge in a gale of wind, anchored and moored, the gale continuing, she was stranded after the twenty-four hours expired, the insurers were held to be discharged. In a case where a ship, upon a similar risk, was moored on the outside of a tier, there being no room for her within, after the twenty-four hours, was driven from her anchors, the insurers were discharged. And this holds, though the *cause* of the loss existed before the ship's arrival. The master of a ship having been guilty of smuggling during the voyage, the ship was seized after her arrival, and after she had been moored twenty-four hours, the insurer was held not to be liable, though the forfeiture attached the moment the offence was committed. So, where a ship was insured for six months, during which she received her death wound, but survived the six months, the insurer was held not to be answerable. But if the ship be, from necessity, sent from her moorings before the twenty-four hours are ended, the risk continues, as where a ship was sent to perform quarantine.

If the ship be subject to seizure under an embargo and declaration of reprisals, and be *in fact* seized within the twenty-four hours, though she be afterwards permitted to land her cargo, the insurer is liable.

When a voyage is described from A. to B. generally, without saying how long after her arrival the risk is to continue, it has been held, that the risk continues until she is unloaded and discharged.

But an insurance on a ship to Jamaica, generally, was held to end as soon as the ship had anchored twenty-four hours in any port there, though her cargo was to be delivered at different places; but this cause seems to have been settled upon *usage*. So, in a *general insurance* on ship and goods to *Jamaica*, where the ship, after discharging part of her cargo at one port, was chartered for another voyage, in which she was to deliver the rest at another port in the island, the risk was held to end on both ship and goods at the first port. *In France*, it was usual to insure to the French West Indies, generally, and the risk continued on *goods* till landed at their respective places of destination; and on the *ship* until the cargo was discharged at the last of these places; but where all but a small part, about one per cent., was discharged, the insurer was held discharged.

Where the rigging and tackle of a ship, put on shore during a *repair*, in the *usual course* of the voyage, were burnt by accident, this was held to be a loss within the policy on the ship.

If the loss be within the general words of the policy, it is incumbent on the insurer to show that it arose from a peril not insured against.

Describing the voyage, in the policy, is an express reference to all the circumstances attending it.

An insurance upon an India voyage, includes the risk of the country voyage, by the *usage of trade;* and if, in such a policy, there be liberty "*to touch, stay, and trade*" at any ports and places, this covers the risk, even of a second country voyage; and, *in such a policy*, where the liberty was only "to touch and stay at any port or place in the voyage," by the usage of trade this covers the risk on the *intermediate voyages*.

But the general rule is, that *such liberty* must be only in the usual course of the voyage; yet the usages of foreign nations, if made known to the insurer, (for he is not *presumed* conusant of them,) may alter the construction.

Insurance on a French ship, on a voyage to *Pondicherry* and *China*, with liberty to "*touch and stay at ports and places*," &c., will not cover a voyage to *Bengal;*—the liberty means only in the usual course of the voyage.

A liberty "*to touch and stay*," does not authorise the insured to break bulk and trade.

The risk may properly commence under circumstances unforeseen at the time. Thus a ship is insured from A. to B.; being represented as a specific part of the voyage from B. to C.; from thence to A. and back to B. The ship having sailed to C. is unavoidably obliged to return to B., from whence she sails to A., and is captured on her voyage back from thence to B.—The insurer is liable for this loss, although the original voyage, of which the voyage insured was a part, was not performed; and the sailing from A. to B. was a good commencement of the voyage insured.

Though the ship, through necessity, change the order of the places, at which she is to touch, yet, if she does not abandon the original voyage, the risk continues. Thus, in another suit on the same policy, (next above alluded to,) the ship was insured *on the around voyage mentioned* in the last case. The captain, on his arrival at B., wrote to his broker to know if the underwriters would still consider themselves liable, if the charterer should insist on his proceeding to A. and is answered, by the broker, that, in *his* opinion, the policy is at an end. At the instance of the charterer, the ship proceeds to A., and on her return thence is captured. The insurer is liable, the deviation being justified by necessity, and the original voyage having never been abandoned.

Upon freight. As to the subject and freight generally, see page 274.

The risk generally begins on freight, from the time the goods are put on board. If an accident happens to the ship, before *any* goods are put on board, which prevents her sailing, the insured cannot recover for the loss of freight, which the ship might have earned, if the accident had not happened. As in the case of insurance on freight, and a cargo ready to be put on board; but the ship is lost, while preparing for the voyage.

But if part be shipped and the rest ready, and the ship be lost, the insured, upon a valued policy, will recover the whole freight. And where the ship is to sail to a distant place, to take in her cargo, the risk, on freight, commences from the time of her sailing for that place.

Changing the risk. After insurance is effected, if any thing be done, to alter the nature of the risk, by the insured, without the consent of the insurer, it will avoid the contract. As if, after a policy is effected on a merchant ship, letters of marque be put on board; this was held to discharge the underwriters, they not having consented; although no use was made of the letters of marque. But this subject will be more fully discussed hereafter, under the head of *deviation.*

OF THE POLICY.

A policy is a written instrument, by which an insurance contract is reduced to form. It is signed by the insurer only; as the premium, which is its consideration, is paid, or supposed to be paid, at the time the policy is subscribed; and it contains no counter promise; but only the engagements of the insurer.

An interest policy is where the insured has a real interest, substantial, and assignable, in the thing insured; in which case only, it is a contract of indemnity.

A wager policy is a pretended insurance, where the insured has no risk, and can sustain no loss;—generally expressed by the words "interest or no interest;" or, "without further proof of interest;"—or, "without benefit of salvage."

An open policy is where the amount of the interest of the insured is not fixed by the policy, but left to be ascertained by the insured, in case of loss.

A valued policy is where a value is set upon the thing insured, whether ship, freight, or goods; and that value is inserted in the policy, in the nature of liquidated damages, to save proof, in case of a total loss; for, by inserting it thus in the policy, the insurer agrees that it shall be taken as stated. The value is, or ought to be, the real value of the ship, or the prime cost of the goods, at the time of the insurance contract.

The insured may not, in many cases, know the amount of his interest, as when returns are expected from abroad; and the case of a prize; and in every instance, where satisfactory advice has not been received: in all such cases, the insured must put the value as near as he can estimate it. It is customary to insert it thus—"In case of loss, the ship is valued at $——, and the said goods at $——;" or, "the said ship and goods," &c. "valued at the sum insured." If undervalued, the insured takes that part of the risk himself; if over valued it must be with a view, either to a fraudulent loss, or to game.

Upon a valued policy it is only necessary to prove some interest;—the amount being admitted. A valued policy seems to partake of the nature of a *wager* policy, and a policy on *interest;* for there is a real interest; but it not unfrequently falls short of the value in the policy; and it too often happens to be a wager in fact; and the value ought to be considered only *prima facie* evidence of the amount of interest; for the insurer only admits it upon the representation of the insured. If he finds that it was fallacious, that it was fictitious, and only a cover for a wager, it cannot be considered that he is so far concluded by it, as not to show evidence, that it was only an evasion of the law.

In France, the value is only taken as true against the insurer, until he can prove the contrary. Valin, indeed, says, that the insurer cannot allege fraud in the specified value, unless he can prove that it is, at least, one quarter part too high. Pothier holds the value to be taken as just, only until the insurer impeaches it; or if fraud appears, it avoids the policy. But both agree that, unless the fraud is made evident, the judges are inclined to impute it to *error*, and *not to fraud.*

In England, where a valued policy, is, *bonâ fide, meant as an indemnity*, the courts will not, very minutely, inquire whether the valuation be very near the true interest. A small excess will not be regarded; but, on the other hand, if the interest prove a mere cover for a wager, the court will pronounce the policy void.

The difference between an open and valued policy is only in case of a total loss; for if the loss be only partial, the same inquiry is made into the true amount of such loss, in policies of either sort; for, were it otherwise, every partial loss must be considered a total one; or else, nothing deemed a loss, unless it were total.

How, and by whom a policy may be effected. Brokers may do this; and it often happens, that there is no direct communication between the insured and the insurer; and the broker is generally responsible, and sometimes he alone is answerable, for the premium. It has even been supposed, but not judicially settled, that he alone can recover the premiums from the insured. But if the premium is a debt due only from the broker; yet a loss is due only to the principal.

To constitute a man an agent to procure insurance, he must have *express directions* from the principal. The ship's husband has not, necessarily, an authority to do it.

But there may be cases where an agent is bound to comply with directions to pro-

cure insurance. 1st. Where a merchant abroad has effects of his principal in his hands. 2d. Where he has been in the practice of procuring insurances for his correspondent, and he has given no orders to discontinue it; and this even if the principal has no effects in his hands. 3d. When he accepts bills of lading, on condition of procuring insurance.

The agent, as well as the broker, is answerable to his employer, for negligence or unskilfulness. Even if the agent prevent an insurance, by limiting the broker to too small a premium, he is answerable; for, though he ought to do it at as low a rate as possible, yet he has no right, so to limit the premium, as to prevent it. Even a voluntary agent is liable, if he take any step in the business.

A policy broker, who employs another policy broker, but omits to give him all the instructions he is furnished with, shall answer for the loss occasioned by his omission; though he derived no benefit from the transaction.

The agent must also act fairly with the underwriter. Any *fraud* or *concealment*, by him, will avoid the policy, even though the insured be innocent of it; but if he act in the usual manner it will be sufficient. An agent ought not to be an insurer; he is too much interested to settle partial losses; and his testimony may be wanting; and although he is a competent witness, yet his credibility cannot be entirely free from suspicion. An action against the agent may be maintained, by the principal, for the policy, and a recovery had, as if it were against the underwriter;—and if the agent, or broker pretends he has procured a policy, when he has not, with intent to appropriate the premium to himself, it makes no difference.—He cannot allege his own fraud, and violation of trust, in defence.

Form and requisite of the policy. The form of this instrument has so much of the stamp and rust of antiquity, that Judge Buller called it an absurd an incoherent instrument; but long practice upon it, has fixed its meaning definitely. Probably, a form nearly similar to those now in use, was introduced by the Lombards, with their other commercial improvements. It is always construed according to the intent of the parties,—and so as to secure an indemnity, and the advancement of trade. The strict, rigid rules of law are not to be laid hold of, but it is to be construed largely, for the advantage of trade, and the benefit of the insured, and according to the course of the trade, at the time. When a clause is clear in itself, it ought to be understood literally; but when clauses are obscure, the only rule to fix their meaning is the common law; because the parties must be presumed to make their agreements subject to that law. Occasional clauses are sometimes introduced, drawn up without advice, which have almost always created doubts, when a word or two, more or less, would have rendered the whole perfectly clear. The usual requisites to a policy are ten, of these a brief notice in their order.

1. *The name of the insured, his agent, or trustee.* Formerly policies were written in blank, *in France and in England*, as to the name of the insured. This, in England, as to Marine Policies, was remedied by a statute of 25 of George 3d, which required the name of the insured, or his agent, to be inserted, if the assured resided in Great Britain; otherwise, the name of the agents. There is another, and later, English statute, which requires that the names or firm of the persons interested, shall be inserted, or the name of one of them, or the name of the person, who gives or receives the order to insure,—otherwise the policy is void. Neither of these statutes are of force here. But it is considered a rule of common law here, that the name of the insured, or of the agent, must be inserted in the policy; and in a case, where only one partner of a firm insured, and there was a total loss, he was only permitted to recover the amount of his own interest, to the exclusion of that of his partner. The court declared, that had the policy contained the additional words, "or whomsoever it may concern," the case would have been otherwise determined. In a

cause in Massachusetts, a policy stated, "Mr. Samuel Davis, or as agent, doth make insurance," &c.—*It was agreed by the parties*, that the insurance was made for the benefit of the plaintiff and another joint owner, and the plaintiff recovered the loss accordingly, for himself and the other owner.

Names of the ship and master. The ship, in a policy on goods, must be named, because all ships are not of equal strength, and the insurer would not be able to form a judgment of the risk; and the ship named, and no other, must contain the adventure.

But a policy on goods, may be on ship or ships; for it often happens, in trade with distant countries; and especially, in time of war, it is uncertain in what ship the goods may be carried; and the parties can estimate the risk accordingly.

The species of vessel must be named truly;—and if a *brig* be called *ship*, &c., to mislead the insurer, or diminish the risk, it will vitiate the policy.

And if the ship be a privateer, or letter of marque, she shall be so described;—and if this be concealed, and the ship be captured, in pursuit of an enemy she might have avoided, the insurer shall not answer the loss.

The name of the master should always be specified; because his character, and ability, are material subjects of consideration, in estimating the risk. *In Holland*, this is required by positive law. *In England*, whose practice we have adopted, it rests upon usage, and the necessity of inserting what is so proper for the insurer to know. If the name of the master stood alone, it would be a part of the contract, and no other person could be substituted as master, but in case of necessity, or by consent of the insurer. But, to obviate difficulties of this sort, the words "*or whoever else shall go master*," &c., are almost universally added in English and American policies; but the master ought not to be changed wantonly, or unnecessarily; much less ought the insured to name one, when he means to send another; for this would be strong evidence of fraud.

2. *The subject matter of the insurance.* The policy must mention, whether it be on *ship*, on *goods*, on *freight*, on *respondentia*, or on *bottomry* securities, or other things. It may be on goods generally, for it would often be impossible to make a particular enumeration; and this is the less necessary, as the *memorandum* protects the underwriter from various partial losses, &c.

Sometimes there is a specification at the bottom, as, "on woollen cloth," &c. In such case, if the goods specified be not put on board, the policy will be void, though other goods are shipped. So a policy on oils, and barilla, will not protect a cargo of *soap;* though these constitute the principal ingredients of soap. The species of a thing is ascertained by its substantial form; that being changed, the *new* destroys the *old*. Yet an insurance of ingots of gold, has been held to protect the metal, converted into utensils, or coin.

In a suit upon a policy, on goods, the plaintiff cannot give, in evidence, a *respondentia bond*, as a proof of interest in the goods, which the obliger has on board; but the usage of the particular trade, may sanction a departure from this rule. There is a usage in the East India trade, which forms an exception. *Master's clothes, ship's provisions*, and *goods lashed to the decks*, cannot be insured, *as goods;* and therefore the insurer is not liable for any loss on them, unless they are specifically named.

Money, jewels, or *bullion*, may be insured under the name of *goods*. This, some have questioned; but in England, it has been usual to insure them as goods; yet the insurer is not answerable for the risk of any clandestine transportation.

But a distinction is made—Jewels and ornaments, which are merely personal, and belong to, and are worn by, persons on board, are not considered a part of the cargo, nor liable to general average; and are not considered as included in a general policy on goods.

3. *Description of the voyage, and commencement and end of the risk.* The voyage, with the commencement and end of the risk, must be described with suitable and convenient clearness, and with the most scrupulous regard to truth. If a blank be left for the place of departure, or destination, it will avoid the policy. In ordinary policies, insurance on goods is generally expressed to be "from the loading thereof on board the ship," and to continue "until the same be discharged, and safely landed" at the port of delivery. *Insurance on the ship*, on an *outward* voyage, is sometimes "from her beginning to load," at some particular place;—or, "at and from" such place; sometimes, from a particular day. Liberty to *touch*, *stay*, *trade*, &c. at certain places, out of the direct course, without its being a deviation, is sometimes inserted in the policy.

Policies may be for a term. In which case, if it be to commence *on* a day certain, it extends to all losses happening on any part of that day. If it be *from the date*, or *from the day of the date*, which have been held to mean the same thing, the construction must always depend upon the subject matter.

A liberty to cruise six weeks, not mentioning the commencement, is intended for six weeks at one uninterrupted period; not different periods.

The description may be literally true, yet calculated to induce a false conclusion, in which case, the policy will be void. As where a ship takes in her cargo at *Leghorn* and sails to *Genoa*, and an insurance is made on the goods from *Genoa* to *Dublin*, "to begin from the loading." This, though apparently a *true*, yet is *really* a *false* description, calculated to induce a belief that *Genoa* was the port of loading. The port or ports of destination, must be truly stated. A ship, insured from A. to B. appears, by her papers, to have had a different voyage in view; and is taken, in the track of both before the dividing point. *This is not a deviation*, but a *different voyage*, and the underwriters are discharged. So, also, where freight was insured from A. to B; but was, in fact, intended for C. And whatever may have been the original intent of the insured, if the ship, in fact, sail on a different voyage, the policy is discharged.

But a mere intention to deviate, however evident, is not a deviation. A ship, insured from A. to B. sails with a *design* to touch at C., and, before she arrives at the dividing point is lost;—the insurers are liable.

Distinction between a deviation and a different voyage. A deviation is a departure from the usual course of the voyage insured; not in consequence of any avowed design, or of any orders given before sailing; but from an after-thought, conceived during the voyage.

If the policy contains liberty "to touch" at a place where the ship is not intended to go, yet will the policy be good; for this only lessens the risk.

If from a certain point in the voyage there are several tracks, of which the captain usually elects which to pursue, but a particular track is prescribed to him, by the insured, this should be mentioned in the policy, or it will be void; for the insurer is entitled to the captain's judgment in such case. This is rather a defective description of the voyage, than a concealment, and renders the policy originally void.

4. *Perils insured against.* The usual form, already noticed, comprehends every loss to which it is intended to make the insurer liable. There are certain losses with which it is not intended to charge the insurer, and which are not comprehended in the usual terms of the policy; being imputable to the owners of the ship, or to the master or mariners. Such are injuries occasioned by *wet*, *bad stowage*, *theft*, and *embezzlement* by *masters*, *mariners*, &c.

In all our policies, the words "lost, or not lost" are inserted. Probably, this clause was originally inserted only in cases, where it was apprehended a loss had already happened; and, in such cases the insertion induced a higher premium; but it has long been inserted in policies, as a matter of course. Natural law would require that the subject matter of insurance should exist, at the time of the contract; but municipal law adds, that although it may, possibly, no longer exist, yet, unless the insured knew it, at the time of the contract, it is, by a sort of legal fiction, founded on the good faith of the insured, supposed yet to exist. And the contract may be supposed to have had existence, while its subject matter was in being, and the premium is estimated according to this idea. The words "lost or not lost" are contained in all English and American policies. These words are not contained in many foreign policies; yet it must, in many cases, be implied in the contract, otherwise the merchant could never be insured against a risk already run;—and it often happens that a risk is wholly, or in part, run before any insurance can be effected. And, fraud out of the question, it does not increase the hazard to the insurer, but is rather in his favor; the premium being proportioned to the whole risk, he may reasonably be supposed better able to speculate upon past occurrences, even in a distant part of the world, than upon such as are future.

5. *The powers of the insured.* It was formerly doubted, whether the insured could use his endeavors to recover goods which had been lost, without a waiver of his right to abandon. To avoid difficulty, and settle this point, a clause was introduced, and is contained in all English and American policies, to enable the insured, in case of any loss or misfortune, to employ all necessary means for the defence, safeguard, and recovery of the *goods* or *ship*, without prejudice to the insurance; and, at the charge of the underwriters, to which they bind themselves to contribute.

6. *The promise of the insurers, and their receipt of premium.* The insurers bind themselves, in the policy, to the insured, for the true performance of the contract;—and they acknowledge the receipt of the premium, at the rate specified, which is the consideration of their engagement. *In practice*, indeed, it is not always paid, yet the policy declares it to be paid, to preclude all objection of the want of consideration. It is indeed held, by a usage of trade, that the insurer must look to the agent for the premium; but sometimes a credit is given to the insured himself. If there were no agreement it would seem that the insured must look to the agent, or broker; and perhaps an action, in such case, would lie against either. But be this as it may, the insurer has a *remedy*. The premium always depends upon the agreement of the parties; and it is always considered just and fair, if there be no fraud or surprise on either side.

7. *The common memorandum.* This is added to confine insurances to their only proper objects—viz. an *indemnity* against *real*, and *important* losses; and to obviate litigation about trifles. Of this, sufficient has been already said.

8. *The date and subscription.* The *true* date is necessary. Where the insurance is by several private underwriters, the date is not usually in the body of the policy, and each underwriter sets down the day, month, and year, of his own subscription. Every subscription, in such case, makes a distinct contract. A somewhat different practice prevails in France.

9. *The stamp*—but as we have no stamp act, this may be passed over. The foregoing are the essential requisites of a policy; and, upon this head, it only remains to consider,—

When a policy may be altered or corrected. A policy, though not under seal, is considered a very solemn instrument. The present form has existed for ages, with very little variation, and has never been altered, but with the utmost caution, and upon very great consideration;—and therefore,

When once filled up, and underwritten, no alteration can be made in it, but by the consent of all the parties, or by the authority of a Court of Equity; for it is not fully settled that a Court of Law can do it;—and it can be done in a Court of Equity, only, where something has been inserted, or omitted by *mistake* or *fraud*, contrary to the manifest intent of the parties; but where this is made out clearly, the court will direct the alteration to be made, even after a loss, if it be a proper case for its interposition. If a part of the underwriters, only, consent to an alteration of a policy, the others are not bound by it. A material alteration in a policy, by the insured, without the consent of the underwriters, will make the whole instrument void. Where, by consent of all parties, a material alteration was made in a policy, which could not be enforced as altered, for want of a stamp, it was held, that it could not be enforced as it stood originally, because it was altered by consent; but it has been adjudged, that where the alteration was not material, and did not vary the liability of the underwriters, and had been shown to all of them—some of whom consented that the policy was not thereby vacated. An underwriter, having agreed that he ought to alter a policy, shall not, afterwards, be permitted to object, that he ought to have an increase of premium.

OF WARRANTIES, AND EFFECT OF A BREACH OF WARRANTY.

A warranty is a stipulation, or agreement, on the part of the insured, in the nature of a condition precedent. It may be *affirmative*, or *promissory*.

Affirmative, as, where the insured undertakes for the truth of some positive allegation; as, that it is neutral property; that the ship is of such force, &c.

Promissory, as, where the insured undertakes to perform some executory stipulation; as, that the ship shall sail on or before a given day; or, that she shall depart with convoy, &c.

An express warranty is a particular stipulation, introduced into the written contract, by agreement of the parties; as, that the thing insured is neutral property, &c.

An implied warranty is that which necessarily results from the nature of the contract; as, that the ship shall be sea-worthy, when she sails; that the voyage is lawful, &c.

A warranty, like every other contract, is to be construed according to the commercial import of the words.

A warranty, being in nature of a condition precedent, must be literally complied with. It is quite immaterial for what purpose, or with what view it was made; or whether the insured had any view at all, in making it. The very meaning of a warranty is to preclude all questions, whether it has been substantially complied with or not. If it be affirmative, it must be strictly true; if promissory, it must be strictly performed. And the breach of it avoids the contract from the beginning;—and whatever it may be; and whether a loss proceed from it or not, the insurer is not liable. A ship was warranted to sail with 50 hands.—She sailed, on the outward voyage with only 46; and, on her middle voyage, with 52. The policy was held void, even on her middle voyage. To whatever cause, (even though it be for the best of reasons,) the non-compliance with a warranty is imputable, the contract is void.

How an express warranty shall be made. It must appear on the face of the policy. Instructions in writing, for effecting the policy, do not make a warranty, unless inserted in the instrument. Even a paper, wafered to a policy, will not make a warranty; but it will be sufficient, if written on the margin, or traversely, or indorsed on the back of the instrument. And if the policy itself refer to written proposals, they will be considered a part of the policy, even though they make a condition precedent.

Warranty to sail on or before a given day. Nothing can excuse a non-compliance with such a warranty; not even a detention by the authority of government, as an embargo. An irresistible force, though one of the perils insured, will not excuse a non-compliance with a warranty. A warranty to sail after a certain day must be observed with the same strictness. But if a ship, warranted to sail on or before a certain day, sail before the day, to join convoy, this shall be a compliance with the warranty; though the way to the place of rendezvous be out of the course of the voyage; but if the ship, in the last case, had gone to the place of rendezvous for any other purpose than to join convoy, it had been a different voyage.

But if the voyage be begun, usage may justify going out of the course to join convoy.

Under an insurance at "and from" an island like Guadaloupe, or Jamaica, the ship is protected, by the policy, in going from port to port in the island. If an embargo be published before the ship sails, and the captain puts himself into it, but in the hope of its being immediately taken off;—this will excuse his not sailing by the day. If a ship once break ground, and get fairly under sail, before the day, this is a compliance with a warranty to sail on or before, &c. though she be driven back by stress of weather, or detained by an embargo. Recently, it has been supposed, that there is a distinction between a warranty to sail, and a warranty to *depart,* on or before a certain day.

Warranty to sail with convoy. This warranty must be strictly complied with; and if the vessel sail without convoy, from whatever cause, the policy will be void, and the insurer not even liable for a peril of the sea; for, in time of war, a ship will expose herself to any other peril to avoid an enemy. Five things are essential to sailing with convoy.

It must be the regular convoy, appointed by government. The convoy intended, by this warranty, is a naval force, under the command of an officer, appointed by government, for the protection of merchant ships, and others, during the whole voyage; or such part of it as is known to require protection. A warranty to sail with convoy for the voyage, is understood to mean such a convoy as the government shall appoint; and whether it consist of one convoy for the voyage, or of several convoys, at different stations, it is still, without question, a convoy for the voyage.

1. *Sailing with any other force* than the convoy regularly appointed, will not satisfy the warranty; not even when the ship arrives after the convoy has sailed, and then puts herself under the protection of a man-of-war, and joins the convoy. 2. *It must be from the place of rendezvous* appointed by government. This is the import of such a warranty;—and it is sufficient, if the vessel depart with convoy from such place of rendezvous. And a ship is protected in her passage to such place of rendezvous.

3. *It must be for the voyage.* This is the meaning of the warranty, generally, though the words *for the voyage,* be not used; for they are not necessary to make it so; nor will the addition of them, in some instances, make the omission of them, in others, the ground of a different construction. If, therefore, a policy stipulate, that the insurer shall return a part of the *premium,* if the vessel sail with convoy, and arrives;—this, like a general warranty to sail with convoy, means convoy for the voyage; and sailing with convoy for only a part of the voyage, will not entitle the insured to such return of premium. Evidence of a voyage, not inconsistent with the terms of the policy, is admissible. Yet a convoy does not always mean a convoy from the place of departure to the port of destination. It means such a convoy as the government shall appoint for the voyage insured. Goods are insured from *London* to *St. Sebastian;* and a convoy is appointed at *Spithead* for *Bilboa.* This being the government convoy for the voyage, a sailing with it satisfies the warranty. If the government considered a convoy to the *Cape of Good Hope* sufficient for going to the *East Indies,* and this were according to the usage of trade, sailing with such convoy would be a sufficient compliance. So, if there be separate convoys, for different parts of the voyage, and this is the usage, it is sufficient.

A ship sails with a frigate from the place of departure to the general rendezvous, with directions, in a certain case, to proceed straight on the voyage insured. The ship loses the convoy, and instead of proceeding to the place of rendezvous, bears away for her port of destination. This is sailing with convoy.

4. *The ship must have sailing instructions.*—These are written or printed directions, delivered by the commanding officer of the convoy to the several masters of ships under his care, by which they may understand his signals and answer them, to know the place of rendezvous appointed for the fleet, in case of dispersion by storm or by the enemy. No vessel can have a full protection without them, and, unless they are obtained, the warranty is not complied with.

Yet, sailing instructions are not so essential but that there may be cases in which the want of them may be excused. If stress of weather prevent the master's obtaining them, the want of them will be *excused.* If the convoy be under sail, and the captain apply for sailing instructions, which are refused; but he is ordered to keep on, and he will be taken care of—this is a sailing with convoy. But if the captain lose an opportunity of obtaining these instructions before sailing, this will be a breach of the warranty. This warranty must be expounded with reference to the usage of trade.

5. *The ship must depart and continue with the convoy* until the end of the voyage, unless separated by necessity. If a ship neglect to get under weigh in time, and lose the protection, though for the shortest time, it is a breach of the warranty. She must also continue with the convoy during the voyage; yet an unavoidable separation will be no breach of the warranty, if she does all in her power to rejoin the convoy. But if the master, through *fraud* or *negligence*, leave his convoy, it is a breach of the warranty. If a ship, separated from her convoy, neglect to rejoin it, this is a breach of the warranty.

Warranty that the thing insured is neutral property. The nature of this warranty.—As the premium is proportioned to the risk, and as the general words in the policy subject the insurer to every loss by capture in time of war, it is very important to ascertain whether the ship or goods meant to be insured, are neutral property. If the insured profess to be the subject of a neutral state, and means to be insured as such, the insurer requires him to warrant the ship or goods to be neutral property. This is done by inserting in the policy the word "warranted neutral," or "warranted neutral property"; and sometimes the warranty is, that they belong to subjects of some neutral state. The word "warranted" need not be in the policy to constitute a real warranty. The words "the property belongs to American merchants" in a policy, during a war, were held to constitute a sufficient warranty that the property was neutral; and in a policy underwritten in the United States, the following note, N. B. "*This vessel sails under a sea-letter,*" was held to be warranty of American property. Insurance was made on goods described in the policy to be made for account of John Mackey, of Boston. Mr. Justice Redcliff said, "I consider this equivalent to a representation that he was owner, and that the insurance was for his benefit; he being an American, residing at Boston, and so known to the parties at the time when the policy was effected, the insurance is clearly to be considered as made on American or neutral property." The court put the same construction upon the policy as if the cargo had been warranted neutral.

It has been held that if insurance is made on the American ship Minerva, that this is a warranty that the ship is American; but perhaps the mere allegation of a fact would not be considered as a warranty if it can have no relation to the risk.

Neutral property within the intent of this warranty means, that it belongs to subjects in amity with the belligerent powers. If the warranty be false, it makes the policy void from the beginning. But if it is neutral at the time the insurance is made, (when the policy is effected,) the chance of a *future* war is always a risk within the policy.

A ship, warranted American, was conveyed by one American to another American, by an instrument absolute in its terms; but, in fact, in trust for a British subject and belligerent, for security of a debt due to him. It was held, in this case, that the warranty was not complied with. It has been held in New York, (one of the court dissenting,) that if property be sold by a neutral to a belligerent, and shipped at the risk of the neutral, until delivered to the belligerent in his own country, and warranted as neutral property, that the warranty is complied with; but a contrary opinion has been held in the English House of Lords, unless the contract is made in time of peace, and without any contemplation of war; and Sir William Scott has ruled according to this decision.

Property, insured as neutral, must not only be neutral at the time of insurance, but it must continue to be neutral as far as depends upon the acts of the insured and his agents. It must not cease to be so by his or their acts. Property, though owned by residents in a neutral country, may yet be in itself of a belligerent character. The produce of a belligerent country, shipped directly from the colony to the mother country, by whomsoever owned, has been held, in England, to be belligerent property; but if owned by a neutral, and exported from such colony, for the neutral country, it is *neutral*, both during its exportation to the neutral country and its re-exportation thence to a belligerent country. The question, in such cases is, whether an importation is intended or whether there has been an actual importation into the neutral country, or whether the whole transportion from the colony to the mother country, is one entire voyage. This doctrine, however, has been opposed in the United States, and has been the subject of much discussion between the governments of the United States and Great Britain. If a belligerent grant my ship a passport to protect her against his cruisers, this is not considered as sailing under the protection of his flag, so as to forfeit his neutral character.

It was considered no breach of neutrality, in 1794, for an American to trade with French colonies, which he could not trade with in time of peace; nor to take French furniture on board, of persons removing, when compelled to do it.

In a warranty that property is neutral, the insured, returning from a belligerent country, must show that his cargo was bought with neutral funds. *A man's national character*, for all commercial purposes, is determined by his domicil, or place of his residence.

When this warranty is falsified by a judgment of condemnation as prize.—The usual evidence to falsify this warranty is a judgment of condemnation, and, by the usual comity which prevails among civilized states, foreign judgments are usually regarded as conclusive upon the subject, on which the sentence is pronounced; that is to say, they are generally considered as settling the *fact* or the *cause* upon which the sentence is founded.

But it must be a court of competent jurisdiction.—The sentence of a *consul* of a belligerent power, residing in a neutral state, has no authority in our courts.

Although it is generally true, that foreign sentences of condemnation are conclusive as to the point upon which they are founded, yet there are exceptions, as if they evidently rest upon *local law*, or upon *false principles*, or are *ambiguous;* and it has been held, that a foreign sentence in a Court of Admiralty is only *prima facie* evidence of any fact, and that, in such sentence, the words "condemned as lawful prize" afford no judicial inference that the ship was enemy's property, and no breach of neutrality as to *illicit trade*, unless in fact it does exist.

Rights of a neutral.—Case where a foreign sentence did not disprove a warranty of neutral property. This was an insurance on goods from New York to France, warranted American property, bought in New York by American merchants, and shipped in an American vessel, consigned to merchants in France, under a contract for the American merchants to deliver the goods at St. Valery, in France, at their risk, to be allowed eight per cent. commission, including a premium for sea risk and war risk, the consignee to pay the freight on delivery, and also for the goods in bills on London. The goods were captured by the British, and condemned as French property. The court held, 1st, that the property remained the consignee's until delivery in France. 2d, that it was a legal contract, and the insured recovered on the policy.

A foreign judgment of condemnation, expressly on the ground of being enemy's property, and so appearing upon the face of the sentence, has, however, been held to be clearly conclusive to falsify a warranty of neutrality. A condemnation in the country of an ally in the war is valid. This was held in the case of a French court, sitting in Spain in 1794, &c., Spain being an ally of France. This was on the ground of enemy's property.

If the ground of condemnation do not appear upon the face of the sentence, other evidence may be resorted to, to show the ground.

Even the sentence of condemnation, as prize, generally, has sometimes been received as conclusive. But if the special ground stated in the sentence do not prove that the thing insured was not neutral, it has also been held that the sentence will *not* be conclusive. In an ancient authority it is said, that even a condemnation declaring that the ship is *not neutral*, though it express no other ground, is conclusive. It must be obvious that there is some perplexity upon this subject, and that some of the foregoing cases cannot be reconciled with others. Perhaps the true ground is, that foreign sentences are conclusive upon the *facts* stated in them, as the cause of condemnation, provided those grounds are not founded upon local law nor upon false principles; and if it clearly appear that the ground stated amounts to a violation of neutrality; and provided, also, that they are not ambiguous, and that the court has competent jurisdiction.

If the ground of condemnation stated do not *necessarily* falsify the warranty, the court may inquire into its truth.

The sentence of a foreign Court of Admiralty is only conclusive as to the points it professes to decide.

What shall amount to a forfeiture of neutrality.—This warranty must not only be true at the time of the contract, but the insured must be careful not to forfeit his neutrality by any action or omission on his part. Such a forfeiture, by the wilful act of the master or mariners, though in some instances it may amount to barratry, is a breach of warranty, and avoids the policy from the time it was committed, nor can the insured recover upon it, for any loss happening afterwards, though it proceed from a cause wholly unconnected with the warranty, for it is of little consequence to the insurer whether the ship is liable to capture, as being enemy's property, or for having forfeited her neutrality.

A ship may forfeit her neutrality by any act done or attempted against the law of nations, or in contravention of particular treaties, and injuries to either of the belligerents. There are several acts of this description.

1. *Forfeiture of neutrality* by resisting the right of visitation and search. It is now settled, that a resistance of the right of search is a violation of neutrality. The doctrine that free ships make free goods,—that is, that the flag covers and protects the cargo, is no longer considered nor contended for, as law.

The rescue by the crew of a neutral ship, arrested and detained by a belligerent armed vessel, for an alleged violation of neutrality, is good cause of condemnation, and a loss, arising from this cause, is not within the perils usually insured against.

The ship must have the proper documents, viz. passport, sea-letter, proofs of property, muster-roll, or rolle d'equipage, charter-party, bills of lading, invoices, log-book, bill of health; but the want of any of these is only presumptive proof, (though in some cases it is strong presumption,) but not conclusive, against the ship's neutrality.

A ship warranted neutral, must, in order to fulfil the warranty, not only belong to subjects of some neutral state, but must also have all the requisites to entitle her to the privileges and immunities of ships belonging to that state: the want of any of these, for any part of the voyage insured, though it may only subject the ship to search and detention, will discharge the underwriters, even although during the part of the voyage when she was captured, she was supplied with the requisite paper. If she be not in a proper condition for sailing during only a part of the voyage, nothing that happens afterwards can better her original situation. This warranty is not satisfied by merely showing that the thing insured is, *in fact*, neutral; and if the ship, for want of a necessary document, merely subject herself to be carried into a belligerent port, she falsifies this warranty. Warranty that a ship is neutral does not mean, merely, that she was built in a neutral state, but that she is entitled to all the indemnities of ships of that state. But neutrals are not bound to take notice of regulations made by belligerents, contrary to the laws of nations; and though it may be prudent to conform to such regulations, yet, in case of a condemnation for forfeiture of neutrality, and it appears upon the papers not to be a legal cause of forfeiture, this sentence will not be conclusive.

But if a ship be not navigated according to the subsisting treaties between the country to which she belongs and the belligerent, she will forfeit her neutrality.

If the insurer knows of any particular regulation which may endanger the insured, he should apprize him of his danger on account of it; but if both are ignorant, a foreign sentence will not be conclusive to prove a forfeiture of neutrality.

A ship warranted Danish was captured by the French and condemned as prize, because the captain was an enemy. This sentence, not founded on the ground that the ship was not a Danish ship, but only because she had been navigated contrary to a French ordinance, was held not to falsify the warranty. No individual state can add to the law of nations by their own ordinances, and the law of nations, subject to the alterations made by particular treaties, is the rule for deciding all questions of prize.

Ships should be furnished with such documents as the states to which they belong have agreed by treaty shall be evidence of their neutrality, but not every document the belligerent powers may require; and a *condemnation*, grounded on the particular ordinances of the belligerent, will not falsify the warranty. Courts of Admiralty are to proceed on the law of nations, which is not varied by particular treaties, except as between the parties to such treaties.

OF REPRESENTATIONS.

Good faith is always to be preserved.—Each party is bound, not only to observe strict integrity, but unreserved openness and candor. Fraud by concealment is seldom imputable to the insurer, from want of knowledge of the facts; but the law watches, with a jealous eye, the insured, from whom the insurer must, in most cases, learn all the facts and circumstances. Every material representation forms an ingredient of the contract, and every material misrepresentation or concealment is a fraud, and will avoid it.

A representation means a collateral statement, verbally, or in writing, of such facts and circumstances, relative to the adventure, and not inserted in the policy, as are necessary to enable the insurer to form a just estimate of the risk.

It may be untrue, either wilfully and fraudulently, or inadvertently and innocently.

A material, wilful, misrepresentation, is a fraud, and will avoid the policy. As, if an agent, knowing that a ship had sailed from Jamaica for London, on the 24th November, effect an insurance by telling the underwriter, that she sailed in December. And such misrepresentation will discharge the insurer, even though the loss arose from a cause unconnected with the fact misrepresented. And so also, if it be made without knowing whether it be true or false; or even if the person making it believe it to be true. But if he only say he believes it to be true, knowing nothing to the contrary, and having no reason to believe the contrary, it will not affect the contract.

The word "*expected*" does not amount to a misrepresentation; because the underwriter may inform himself of the grounds of this belief.

The difference between a representation and a warranty. A warranty, being a condition upon which the contract is to take effect, is always a part of the written policy, and must appear upon the face of it; whereas a representation is only collateral matter of information, or intelligence, on the subject of the risk. A warranty, whether material or not, must be strictly complied with, and every false warranty avoids the policy, being a condition precedent; but a false representation is no breach of the contract; but if *material*, it avoids the policy, on the ground of fraud; or, at least, because the insurer is misled by it. Written instructions, unless inserted in the policy, are only representations.

Agents and Brokers should keep entries of all such instructions, and representations; because they are responsible for the consequences of any representation made without authority.

A misrepresentation made to the first underwriter is a misrepresentation to all.

Computation stated as fact. If the insured state his computation as fact, and it prove untrue, it will avoid the policy. A ship insured 30th January, from New York to Philadelphia, was represented to have been safe in the Delaware, 11th December; when she was, in fact, lost on the 9th December. This being the result of computation, and though not fraudulent, avoided the policy.

A misrepresentation, whether by the insured, or his agent; and whether fraudulent or innocent, if in a material point, avoids the policy. A letter ordering to insurance, was written, by an agent of the insured, *before*, and sent *after the loss was known.* Held a misrepresentation, whether it arose from fraud or negligence.

If a representation be true, in substance, it is sufficient; for if strict and literal truth were required, it would have been inserted in the policy. A representation was 12 guns and 20 men. The ship sailed with 10 carriage guns, 6 swivels, 16 men, and 11 boys. This being a greater force than was represented, it was held that the representation was substantially true.

Voyage represented as being less than the voyage described. In such case, if there be no fraud, and the voyage performed be within the policy, it will be protected. The voyage described in the policy was from L'Orient to the isles of Bourbon, China, Persia, and during the time of the ships stay and trade, &c. A representation describes the voyage to be to Madeira, the isles of France, Pondicherry, China, and back to France, to L'Orient. Though the voyage, described in the representation be *less* than that mentioned in the policy, yet, being without fraud, and the voyage performed being within the policy, it is protected by the policy.

Even if a representation be untrue, if it do not deceive the insurer, it will not avoid the policy. A ship, insured from London to Nantz, with liberty to touch at Ostend, clears out for Ostend only; but means to go direct to Nantz, with bills of lading, purporting to be made out at Ostend, as if the goods had been shipped there, in order to be able to import English goods into Nantz, at Ostend duties, and also to save the light-house duties going down the channel. This being a constant practice, known to all who are concerned in this trade, is no fraud on the underwriters. And the intention to evade the light-house duties was held not illegal, the policy being effected *before*, and the ship having sailed *after*, a war breaking out, does not affect the contract.

If it be stated that a ship was *ready to sail* on a certain day, when in fact *she had sailed*, this is a misrepresentation.

A misrepresentation, to avoid a policy, must be material to the risk.

The insured states that he has a material paper on board. He must use it when occasion requires; and if he do not produce, and use it, when it is important so to do, the underwriters will be discharged. Every insurer may expect that a material paper will be made a proper use of.

If there is a secret understanding between the insured and the first underwriter, that he shall not be chargeable,—that he is only a *decoy duck*,—all the subsequent underwriters are discharged.

OF CONCEALMENT.

Concealment, or suppression of the truth, is nearly allied to *misrepresentation*, or *allegation of falsehood*, and consists in the *fraudulent* suppression of some material fact, or circumstance, which affects the risk; and, like every other fraud, it avoids the contract from the beginning. Even an innocent concealment, if it be material, will avoid the policy; nor can the insured, by offering an increase of premium, require the insurer to confirm it. The insured ought, therefore, to inquire, and disclose, all material circumstances.

What shall be deemed a material concealment. Whatever respects the state of the ship, the time of sailing, the nature of her employment, &c., ought to be fully disclosed; and a concealment of them vitiates the policy, even though the loss arise from a cause unconnected with the fact concealed. The broker's instructions state, that the ship was ready to sail on the 24th December, when, in fact, she had sailed on the 23d;—this is *material.*

A well-founded suspicion of a concealment, will amount to proof of fraud. An intimate friend of the owner of a ship, hearing of her being lost, informs his clerk of the misfortune; and he, the same day, by order of the owner, writes to have insurance effected on the ship. The concealment by the clerk, avoided the policy, even supposing the owner himself quite innocent.

Concealment of the time of the ship's sailing, avoids the policy.

Where a ship is to be employed in a service of peculiar danger—this circumstance, *concealed*, avoids the policy.

Although the broker thought a material circumstance immaterial, and therefore concealed it, the policy was avoided.

Even doubtful rumors, concerning the safety of a ship meant to be insured, "lost or not lost," must be disclosed, or the insurance will be void.

The non-compliance with an ordinance, though contrary to the law of nations, must be disclosed, or it is a fatal concealment.

A concealment by an underwriter, will avoid the policy, as to him, in an action to recover back the premium.

To conceal a trust for an alien, will avoid a policy.

Unusual papers taken on board, increasing the risk, not disclosed, avoids the policy.

Orders to insure must be recalled, as soon as the loss is known. *False infor-*

mation, given by mistake, if timely discovered, must be recalled, or the policy will be avoided.

What things need not be disclosed. Either party may be innocently silent as to matters which are open to both, and upon which they may exercise their judgments. The insured need not disclose what the insurer knows, or ought to know, what he takes upon himself the knowledge of, or what he waives being informed of;—nor need he tell the insurer what lessens the risk, which is understood to be comprised within the policy in express terms;—nor what is the result of general topics of political speculations. The insured, for instance, is bound to know every cause, which may occasion natural perils;—the difficulty of the voyage—the varieties of the seasons—the probability of lightnings, hurricanes, &c.—and political perils, from the rupture of States; from war, and its various operations. The probability of safety, from the continuance, or the return of peace, from the imbecility of the enemy, the weakness of their councils, want of strength, &c. *An underwriter, who insures private ships of war*, need not be told the secret enterprises, upon which they are destined; for he knows there must be some such expedition, and from the nature of the case, he waives the information. If he insure for a certain period, he need not be told any circumstance to show that the risk may be over in a less time; or, if he insure a voyage, with liberty to deviate, he need not be told what tends to show that there will not be a deviation.

Things which are equally common to both, need not be disclosed; but those only, which *one of them* privately knows, and which the other has no right to suspect, must be made known. Whatever is impliedly warranted need not be represented or made known. The sea-worthiness of the ship is always an implied warranty. Therefore, the state of the ship need not be represented. Letters, therefore, from the captain representing the bad state of the ship, in her outward voyage, need not be shown to the underwriters upon the ship, upon a subsequent one. *Nor is it necessary to state what may reasonably be presumed*, or what either party may know if he will;—nor a circumstance, made material by a foreign ordinance, of which he was ignorant.

The master's instructions, as to the mode of pursuing the voyage, need not be disclosed. *Clearance to a different port*, in order to avoid detention by cruisers, does not make a different voyage. Though the master, in his protest, stated, that he sailed for a different voyage; yet, if he explains his reasons for so doing, it will not vary the case. *Concealment that part of the cargo is contraband of war*, does not avoid the policy. It is held, that such goods are lawful goods.

On a general policy, the insured *need not disclose that his interest is an undivided part.*

The thing concealed must be a fact;—something more than a mere expectation, or speculation to avoid the policy. When a broker, speaking of several vessels, said they were *expected* to leave the coast of Africa in November, or December, the policy in question was deemed good, though the ship insured had sailed the May before.

OF THE SHIP.

There are certain implied stipulations, or conditions, concerning the ship, which the insured are bound to fulfil, viz. that she is sea-worthy;—that she shall not be changed, except from necessity, or with the consent of the insurers; and that she shall be conducted and navigated according to law. Of these in their order.

Of the sea-worthiness of the ship. No loss, arising from an *internal defect* of the thing insured, can fall upon the underwriter. There is an implied warranty, in every policy, on ship, or goods, that the ship shall be sea-worthy; that is, that she shall be *tight*, *staunch*, and *strong*, *properly provided with all necessary stores*, &c., and in all respects fit for the intended voyage. The consideration is paid in order that the insured may be indemnified; and it supposes that the insurer may *gain* the premium; but if the ship be incapable of performing the voyage, there is no possibility that the insured *can* gain the premium; and in such case, the insurance, on his part, would be without consideration, and therefore void. In France, there is a previous survey of the ship; but the report of this survey is not sufficient proof of sea-worthiness.

A ship damaged shall be presumed not sea-worthy, unless it appear that her disability arose from sea-damage, or some other misfortune.

A ship springs a-leak at sea, and is forced, by contrary winds, to run for the nearest port, where she is pronounced innavigable. It is a question, whether, in this case, the ship shall be presumed not sea-worthy, when she sailed. It was decided against the sea-worthiness, at St. Croix de Teneriffe. If the loss, or disability, may be fairly attributed to sea-damage, the proof of non-sea-worthiness rests on the insurers.

Neither the ignorance, nor innocence of the insured, will avail him against a breach of this warranty. The purchaser of a ship sends her to be docked, and completely repaired, and the ship-builder is ready to swear that this was done; yet, if it afterwards appear, that she was not sea-worthy, though this proceed from a latent cause, the policy is void.

If the ship be not sea-worthy the policy will be void, though both the insured, and the captain believed her sea-worthy, and though the insurer knew the state she was in, as well as the owners.

It is sufficient, if the ship be sea-worthy at the time of her sailing. She may cease to be so in 24 hours; yet the insurer shall be liable; but if a defect appear, soon after sailing, without any visible cause, the inference is, that she was not sea-worthy, at the time of sailing.

But to be sea-worthy, she must be properly manned, by persons of competent skill and ability to navigate her.

A ship takes a pilot, on her entrance into the Thames, who is permitted to leave her before she is safely moored, and an accident afterwards happens: The insurers are discharged, though it do not appear that the loss was directly imputable to any want of skill in those who navigated the vessel.

Of changing the ship. This must be only from necessity, or by the consent of the insurer; and if, before the commencement of the voyage, the ship be changed, or if the goods be put on board another ship, except from necessity, and without consent, the policy is void. The ship may not only be changed, from necessity, but the proceeds of goods saved from the wreck of the first ship, may be invested in new goods, and the risk will continue on these, in the new ship. When the best is done that can be done, for the interest of all parties, the underwriters will still be liable. The captain ought to hire another ship, if it be best for the interest of all concerned, that he should do so, and, in such case, the insurer shall pay all average losses on the goods, expense of salvage, unloading, storing and reloading, with duties, and the increase of freight, if any;—in short, every expense in consequence of changing the ship.

Insurance of goods on board "ship or ships." In insurance, the ship is generally named; but insurance may be made on ship or ships. If two policies be made, for different sums, on ship or ships, and one is lost, it would seem that this ought to be considered as but one insurance, on the entire goods, by both policies, and that the underwriters ought to contribute for the loss; but it is otherwise, if each policy be appropriated to the goods in a particular ship.

If two policies, on goods, be made on the same voyage, one on a particular ship, and the other on "ship or ships," and the latter be lost, the latter shall be applied to the goods lost.

Of the conduct of the ship. It is an implied warranty, that the ship shall be navigated, conducted and managed, according to law; that is, not only according to the municipal law, and the law of nations, but according to the particular treaties, between the country to which she belongs, and other states.

A sentence of condemnation, on the express ground that the ship has violated a treaty, will be conclusive to show that she did not sail according to law. But if this be only recited as a fact; and the ground of the sentence be, that the ship was enemy's property, the sentence will not be conclusive evidence to prove that the ship conducted in violation of the treaty.

OF DEVIATION.

A deviation is a voluntary departure, without any necessity, from the usual course of the voyage insured. From the moment this happens the voyage is changed, the contract of insurance determined, and the insurer discharged from any farther liability; for, by the terms of the contract, the voyage agreed upon, and no other, is the voyage for which the risk is taken; and it is an implied condition in the policy, that the ship shall seek her destined port by the shortest and safest course.

But in cases of necessity, a deviation, limited, however, by the necessity, may be excusable.

What amounts to a deviation. By the course of the voyage is not meant the shortest possible way from the port of departure to the port of destination; but the regular, and customary track, if such there be, which usage has made the most safe and convenient. And therefore, the stopping by the way, at certain places, though out of the direct line is not a deviation, if such has been the usual and settled practice; for such usage is supposed to be referred to, in every policy, as much as if it were expressed. But a few instances will not make such a usage.

The effect of a deviation is not to vitiate or avoid the contract, but only to determine it, from the time of such deviation; but though thus discharged, the insurer may retain the whole premium.

A deviation determines the contract, although, afterwards, the ship resumes her proper course, being still in good condition to perform the voyage; for, the contract being once dissolved, can only be renewed by the consent of both parties.

The smallness of the deviation makes it not less fatal. A ship puts into a port, not in the usual course of her voyage, though it lies in her way. This is a deviation.

A ship having liberty to put into one port, puts into another, equally in her way. This is a deviation, and fatal to the contract, though neither the risk, nor the premium would have been greater, had it been allowed by the policy.

If there be several ports of discharge mentioned in the policy, the ship must go to them, in the order in which they are named, unless some usage or particular facts appear, to vary the general rule. And if the ports of discharge be not specified, the ship must go to them, in their geographical order, or the insurers will be discharged. A ship is insured from Lisbon to England, with liberty to call at any one port in Portugal. This gives leave to call at one port in Portugal, in the course of her voyage to England.

But if, by necessity, a ship is compelled to alter the order of the places; this is no deviation.

The clause, giving liberty "*to touch, stay, trade,*" &c., must always be interpreted as subordinate to the voyage insured; and however general, they do not give the captain power to change the voyage, but only to extend it to the places in the usual course of the voyage.

The true reason why a deviation discharges the insurer is, because the insured has substituted *another* voyage.

A letter of marque is not at liberty to cruise in quest of prizes; but she may give chase to an enemy which comes in her way.

A liberty to cruise, for a certain time, in the voyage, must be taken at one continued period.

Witnesses may prove a usage, as explanatory of a clause in a policy; but their opinion of its meaning is not admissible.

A ship must perform the voyage in a reasonable time, and any unnecessary delay will be equivalent to a deviation.

A deviation is not the less fatal because the risk is not increased by it.

The insured has no right to change the bottom, unless from necessity, though to a better ship.

Stopping to trade is a deviation, though *touching* may not be.

Stopping to fish, in the way, has been held a deviation.

Liberty to touch at a port, differs essentially from delivering a cargo.

It is a deviation for a vessel, even during the time when she must be waiting for a cargo, as of salt, &c., to go out of her insured track to another place, to transport provisions for a government, although thereby her insured voyage be expedited, and though she return to her insured track before she is lost.

If a ship is carried out of the way by a *public* ship, it is not a deviation.

If the insured take on board additional cargo, the insurer is discharged, if there is no leave given in the policy.

The fear of danger to justify a ship's stay in port, beyond a reasonable time, must be obvious, immediate, directly applying, to interrupt the voyage, &c.,—it must be imminent, not distant, nor contingent.

A voluntary departure to avoid a peril, not insured against, is a deviation.

Selling a part of the cargo at a port of necessity, before the vessel is repaired, does not avoid the policy.

If one vessel stop at sea to save another in distress, it has been held a deviation; but this has been questioned, and Chief Justice Marshall has intimated that it is not a deviation; yet the point was not directly decided. Mr. Justice Washington declared, that if the object of the deviation be to save the life of man, he would not be the first Judge to exclude such a case from the exceptions to the general rule.

A ship delays twenty-three days at the port of destination, with the *expectation* of being permitted to enter; and, being disappointed, sailed to another port; this is not a deviation.

Delay in port, to claim cargo seized, is no deviation, if there is any hope of succeeding.

A deviation is generally the result of after thoughts, after interest, after temptation, &c., and not the result of any previous deliberation. When it is intended beforehand, it is always provided for in the policy, unless *fraud* be intended.

In all cases of deviation, the places of departure and destination are as stated in the policy; but where the voyage *insured* is not the voyage *intended*, and the captain has instructions accordingly, this is not the case of an *intended deviation;* for there cannot be a deviation from a voyage, which was never intended; but it is the case of a different voyage.

A mere intention to deviate, and not begun, is not a deviation. In a case of insurance from Carolina to Lisbon, and thence to Bristol, it appeared that the master had taken in salt, which he was to deliver at Falmouth, before going to Bristol; but the ship was taken while on the course to both places, and before changing the course to put into Falmouth. It was held, that this was merely an intention to deviate, and did not discharge the underwriters. Where a voyage insured was from Cork to London, the master intended to touch at Weymouth, but before he turned off for that purpose, he was overtaken by a storm, and driven into that very port. Lord Kenyon held that this was not a deviation. Our courts adopt the same principle.

If there are several tracks to the port of destination, of which the captain ought to be at liberty to elect, when at the dividing point, but the insured prescribes one of them, the insurer is discharged. But *quere*, if this be because it is a deviation.

What cases of necessity will justify a deviation.—To discharge the underwriter, it must be a *voluntary* departure from the usual course, and not warranted by necessity. If the master act *bonâ fide*, and only aim at performing the voyage in the shortest and safest manner, a departure from the direct course will not be a deviation.

It is not a deviation to go out of the way to avoid a danger insured against. In all cases, it is proper, in order to determine this question, to consider the motives, end, and consequences of the act.

Stress of weather will justify a deviation, and the ship is not obliged to return to the point of deviation; but may make the best of her way to the port of destination.

Want of necessary repair is another excuse for a departure from the usual course of the voyage. The captain may go to the nearest port where such repairs can be had; and he must content himself with such as can most expeditiously be made.

To join convoy, a ship may be justified in going out of her course when she is warranted to sail with convoy.

To avoid an enemy is another justifiable cause, when the insurance is against capture.

Compulsion by a mutinous crew will excuse a deviation.

The extent of deviation must be justified by the degree of necessity; and the insured must not deviate from the voyage of necessity, nor delay, unnecessarily, for that would be a new deviation.

A ship was insured "from St. Ubes to her port of discharge in the United States." It was held not to be a deviation, upon her arrival at a port in the United States, to wait *there* for instructions from the owner for what port of discharge to proceed.

To procure seamen, from necessity, part of the crew being lost or sick, is an excuse for departing from the usual course of the voyage.

A ship, in imminent peril of capture, may excuse a delay in port, or going out of the way for convoy; and a ship may pursue an unusual course to avoid capture.

If the port of destination be obstructed by ice, and the ship put into another port, fairly and *bonâ fide*, this is no deviation.

Extraordinary circumstances, rendering it very difficult to determine in what manner to proceed, will excuse the master for going out of his course for intelligence and advice. The master of a ship bound from Boston to Rotterdam, having notice on the voyage, that, by British orders in Council, Rotterdam was placed under the same restrictions as if actually blockaded, put into Plymouth in England, for intelligence and advice. This was held no deviation.

A ship, chartered for a voyage from London to Norfolk, in Virginia, there to take a cargo for London, being insured from London to her loading port in

Virginia, and back to London, arrived at Norfolk with a load of salt, in January, 1808, where an embargo was laid on vessels, and not taken off until March, 1809. The ship might have left Norfolk immediately, it seems, with her outward cargo of salt or in ballast; but the master staid until the embargo was taken off, and long enough afterwards to take in a cargo of lumber, with which she sailed in August, 1809. It was held that this was not a deviation. Insurers may waive the taking any advantage of a deviation. This must be done in writing to make it binding; at least, if it be after the deviation, and after the policy is subscribed.

OF LOSS.

A loss, in insurance, is the injury or damage the insured has sustained by the happening of one or more of the accidents or misfortunes against which the insurer has undertaken to indemnify him. These perils, as they are usually denominated, are all distinctly enumerated in the policy.

The common policies enumerate the following risks, which the insurers take upon themselves, viz. "of the seas, fire, enemies, pirates, assailing thieves, restraints and detainments of all kings, princes, or people, of what nation or quality soever, barratry of the master (unless the assured be owner of the vessel) and of mariners, and all other losses and misfortunes which have or shall come to the damage of the said ——," &c.

Losses are total, or partial.—A total loss is understood in two cases, natural and legal. In its natural sense, it signifies the absolute destruction of the thing insured. In its legal sense, it means not only the absolute destruction, but likewise such damage to the thing insured, though it may specifically remain, or renders it of little or no value to the owner. So it is said to be total, if, in consequence of the misfortune which has happened, the voyage is lost, or is not worth pursuing, and the projected adventure frustrated, or if the value of what is saved be less than the freight.

A partial loss is any loss or damage short of, or not amounting to a total loss; for, if it be not the latter, it must be the former. Thus, if a ship insured for a given voyage, arrive at her port of destination, and there remain moored twenty-four hours in safety; or if she be insured for a term, and she survive the term, no injury which she could have sustained during such voyage or such term, however great, can amount to a total loss.

So, in case of goods, the insurer contracts that they shall arrive safe at the port of delivery; or, if not, that he will indemnify the insured. If they specifically remain, and are actually landed at the port of delivery, however damaged in the voyage, the injury will only amount to a partial loss. Partial losses are sometimes denominated average losses, because they are of the nature of those losses which are the subject of average contributions; and they are distinguished into general and particular averages. The subject of losses may be thus divided, viz. 1. Loss by perils of the seas. 2. Loss by running foul of another ship. 3. Loss by fire. 4. Loss by capture. 5. Loss by detention of pirates. 6. Loss by barratry. 7. Loss by average contributions. 8. Loss by expense of salvage. 9. Wilful and fraudulent losses. Of these in their order.

Loss by perils of the seas.—In a large sense, all the accidents and misfortunes to which maritime adventures are exposed, may be called perils of the sea. But it is convenient to distinguish losses to which ships and goods at sea are liable by the immediate causes. In this view, losses by the perils of the sea are only understood to mean the accidents or misfortunes which proceed from *sea damage;* that is, from stress of weather, winds and waves, lightnings and tempests, rocks, sands, &c.

The ship's foundering is, therefore, such a loss; and it must be total, in the strictest sense of the word.

Stranding, which is either *accidental*, as where the ship is driven on shore by the winds and waves, or *voluntary*, as where she is intentionally run on shore, either to preserve her from a *worse fate* or for some *fraudulent* purpose. A stranding may be followed by shipwreck, in which case it becomes a *total loss*, or the ship may be got off in a condition to prosecute the voyage, and then the damage sustained and the expense incurred will be *in the nature of a general average*. The ship may strike against a sunken rock or any thing under water, which may occasion the springing a leak or absolute shipwreck.

If a ship be not heard of in a reasonable time, she may be presumed to have foundered. In case a ship has not been heard of in four years after she sailed, the insurer may be sued as for a loss by sinking at sea. In *France* and *Spain*, there is a time of limitation for this presumption. In *England* there is no such express time, but every case stands upon its own circumstances. When a reasonable time has elapsed, the underwriter will usually pay the loss; and if a doubt remains, he may either demand security from the insured to refund, in case of safe arrival afterwards, or he may trust to his remedy by action to recover it back.

Every loss must be ascribed to its immediate, not its remote cause.—If a ship be driven by stress of weather on an enemy's coast and there captured, this is a loss by a capture; and yet it has been held, that capture is a loss by perils of the seas, as much as shipwreck.

If a ship is destroyed by worms, this is not a loss by the perils of the seas.

Damage to the ship, rigging, and furniture, occasioned by the ordinary service the ship is engaged in, the insurer is not answerable for; but *only for such* as is occasioned by *extraordinary accidents;* and, in such case, if it be necessary to slip a cable, or a cable be lost, or anchor broke, or mast or yard be carried away, &c., this is within the sea perils insured against. If *animals* be insured, their death occasioned by tempest, shot of an enemy, jettison, or other extraordinary accident, is a loss within the policy. And so, if by disease. Formerly, negro slaves were placed under the same head, and the same rules were applied to them.

Loss by running foul of another ship.—This may be the effect of accident, without blame to either, or by the negligence or misconduct of one or both. The injury occasioned by this accident is a loss within the policy, unless it be imputable to the misconduct or fault of the master or mariners, and Lord Mansfield considered it one of the perils of the seas; but, however this may be, it is clearly held to be included in the general perils insured against. Marshall supposes, if it be occasioned by the misconduct of the master and mariners, it would amount to barratry; but no case is cited or known to support this opinion. An action, however, would lie against the ship to whose misconduct the loss is imputable.

Loss by fire.—Loss by fire, not imputable to the fault of the master or mariners, is undoubtedly a loss within the policy; and in many places the insurer is held liable, if it be by the fault of the master or mariners, or from the qualities or defects of the subject insured, or from the direct or indirect operation of some peril, for the consequences of which the insured is himself answerable; but in France, in such case, the insurer is not liable, unless by the policy he be answerable for barratry.

If a ship be burnt by order of the state where she happens to be, to prevent infection, this is a loss within the policy.

If a ship be attacked by an enemy, and the master find it impossible to defend her—he may leave her, and *set her on fire*, to prevent her falling into the enemy's hands. In such case the master is justified, and the insurer liable.

Loss by capture. Capture is when a ship is subdued, and taken by an enemy, in open war; or by way of reprisals; or by a pirate, with intent to deprive the owner of her. Capture may be with intent to possess ship and cargo; or only to seize the goods of an enemy, or contraband goods, which are on board. The former is a *capture*, the latter only an arrest or detention, without a design to dispossess the owner. Capture is deemed lawful, when made by a declared enemy, according to the laws of war—and unlawful, when against the laws of nations.

Every capture, lawful or unlawful, is a loss within the policy,—the words being sufficiently comprehensive. And the underwriters are answerable for every loss actually sustained;—as total, where the ship, or the goods, are not restored again;—or partial, where there is a re-capture, or restoration, before abandonment, in which case the insurer pays the salvage, and other necessary expenses in recovery. As between the insurer and insured, the insurer is liable. Whether the property be carried into an enemy's port, or fleet; or by condemnation;—that is, in any way;—changed by the capture or not. Therefore the length of possession, or any other cause, deemed sufficient to divest the property by capture, can make no difference;—and the effect of capture, and re-capture can make no difference, except in policies without interest.

The words "taking at sea, arrests, restraints, and detainments, of all kings, princes and people," &c. protect the insured against all loss by capture and detention; and capture and detention by belligerents, where the property insured is warranted neutral. A seizure is equivalent to a capture. The insurer is liable for the loss of a vessel, taken by government for a fire ship, or the capture of neutral property, by those acting under a commission from the government, of which the insurer is a subject, in case the risk of capture can be legally insured against.

Although, as between the insurer and the insured, there is no question as to the subject of change of property, in cases of capture, yet it is held that the property is not changed in favor of a vender, or a recaptor, so as to bar the original owner, until there has been a regular sentence of condemnation. A ship was restored to the owner, after fourteen weeks possession by the enemy, because there had been no condemnation. And, in one case, it was held that four years' possession, and several voyages performed, will not change the property, without a sentence of condemnation.

The insured may abandon in every case of capture. But he is not bound to do it; for as the law now stands, no capture by the enemy can be so total a loss as to leave no probability of recovery; for the right of reclaiming continues forever; except in the case of a captured ship converted into a ship of war. If the owner himself should retake his goods, or ship, he will be fully entitled to them; and if they be retaken, at any time, *before* or *after* condemnation, he will be entitled to restitution, upon payment of a settled salvage.

When the insured may abandon, and recover for a total loss, we shall see hereafter under the head of *abandonment*.

If the insured abandons the insurer will stand in his place.

The insurer is liable for all charges, occasioned by recapture; and, therefore, for a sum of money, *bonâ fide* paid, on a compromise to prevent a condemnation as prize.

If the produce of an enemy's country be brought from thence in barques, and put on board a neutral ship, this will be the same as if the goods were shipped from the shore, in a neutral port. But a neutral's ship, trading to an enemy's colony, with all the advantages of an enemy's ship, is liable to capture.

Ransom. Formerly it was a practice to ransom British ships by delivering what is called a Ransom bill, which secured the captor the stipulated price, and operated as a Bill of Sale to the original owners, and a protection during the remainder of the voyage. A hostage was delivered to the captor, to secure him the punctual payment. This was obligatory upon the owners, and considered a contract by the law of nations; and actions have been maintained upon them at common law;—and in case of insurance, this ransom bill was taken as the measure of the demand upon the underwriters. But it was at length determined that no action could be sustained by an alien enemy, for any right acquired by war.—And it is declared unlawful, in England, by a statute, to ransom any British ship taken by the enemy.

If a ship be recaptured before she is carried into an enemy's port, she may, with consent of the recaptors, prosecute her original voyage. And the recaptors shall not be obliged to proceed to adjudication until after six months, or after the return of the ship.

If war is declared after insurance is made, and thereby the risk is increased, yet the insured is protected by the policy; for the risk of the breaking out of a war is one of those assumed by the insurers; who, on the other hand, are entitled to retain the whole premium for a risk taken during a war, in case peace should be declared before the voyage is ended. If a ship be detained in a port after a declaration of war, or issuing letters of reprisal;—this is a capture, and the insured may abandon, though there be no condemnation; and the ship, after abandonment, be restored. The taking a neutral ship at sea, under pretence that she is an enemy, is a capture.

Loss by detention of princes, &c. By these, or equivalent words, "arrests or detainments of all kings, princes or people, of what nation, condition or quality soever," (and the words in European and American policies are nearly the same,) make the insurer liable for all losses by detention, by authority of any prince, or public body, claiming to exercise the sovereign power, under what pretence soever. And if the sovereign of the country to which the ship belongs, or any other sovereign, not at war with him, from motives of necessity, not of policy, arrest the ship, either singly or together with others, in the same port or harbor, this is a detention by princes. And it differs from capture, because there is an intention to restore, or to pay the value to the owner; and though neither of these should be done, yet it is an arrest of princes, because the character of the act depends upon its original design.

An arrest of princes may be at sea, as well as in a port or harbor; provided it be done without a view to plunder, but from public necessity.

If a ship be unlawfully arrested, under pretence that she committed some offence against the law of nations—this is an arrest of princes. But if for navigating contrary to the laws of a foreign state, a vessel is seized, this is not an arrest of princes. It may, perhaps, be barratry in the master.

An embargo is the most frequent cause of detention by princes, &c. and it is a detention of princes, whether lawful or unlawful, and within the policy.

The word "people" means a people or nation, not a lawless mob, or rabble; but a nation in its collective and political capacity. If a ship, insured "at and from" a port, be arrested *in* that port—this is an arrest within the policy. A seizure after a cessation of hostilities, and preliminary articles of peace signed, is not a capture, but only an arrest of princes. [Marshall doubts of the authority of this case.]

Imminent and immediate danger of capture by the public enemy. Insurance upon cargo from New York to Sweden.—The ship arrived at Winga sound, near Gottenburg, 14th July, 1812, and remained there at anchor till 24th, when the master received intelligence of the war between the U. S. and Great Britain. There was leave to call at Gottenburg, for orders. The master proceeded to Gottenburg, to avoid capture. The Baltic was thronged with British cruisers, several of which were stationed at Winga Sound; one or more of them being constantly in sight of Gottenburg;—and the vessel could not go to sea, without passing them. It was, therefore, impossible to pursue the voyage without exposure to certain capture. The voyage was, therefore, broken up. This was held an arrest, and restraint, within the terms of the policy, and the underwriters were, therefore, liable. In this case, the danger of capture was *imminent, immediate, obvious and certain;* had it been doubtful, uncertain, and not apparent, the case had been otherwise. It must sometimes be a nice point to mark the distinction in these cases.

Loss by Barratry. We have already noticed this subject. (See p. 257.) In some maritime towns in Europe, insurers are made answerable for barratry, by positive law. At Rotterdam, the owner cannot insure against the barratry of the master of his own appointment, but is permitted to insure against his neglect, and against the barratry of the sailors, and of such master as may succeed in the command in foreign countries, without the owner's knowledge, upon the decease or absence of the original master. Lord Mansfield thought it strange, that barratry should ever have crept into insurances. Roceus held the rule, that the insurers cannot be made liable for barratry, if the insured be owner of the ship; but that if he only charter her, he may insure against it; because in that case, the owner appoints the master; and that where the owner of the goods appoints the master, he cannot be insured against barratry. In France, formerly, the insurer was, from the nature of the contract, considered answerable for barratry; but now it is confined to cases where it is expressly provided for in the policy. Emerigon even insists that the insured cannot be insured against barratry, because the master is the insured's own agent. But this objection does not apply in the case of the owner of the ship, to insurances on goods, in a general ship which carries the goods of every body. And even in the case of a particular ship, it may be presumed that if the insurer does not know the master he may know his character, (or it is his own fault,) for every policy specifies the master; but then it is generally provided, that any other person may go as master at the election of the insured, and by permitting this to stand in the policy, the insurer waives all personal knowledge of the master, and therefore no objection can fairly be made of the want of such knowledge. It is very important that this risk should be protected; otherwise, few men of small capitals, would embark their property.

In England, the owner may be, and usually is, insured against barratry, although the master and mariners are his own agents. In principle, this would be just enough, because no acts of the master and mariners, with privity, consent, and allowance of the owner, amount to barratry; but in practice it seems to be inexpedient, and to open a door to fraud, inasmuch as it would seldom be possible to prove such privity, consent, and allowance. If the captain *himself* be insured, no contract whatever could make the insurer liable *to him* for barratry; but in such case, the insurer may be liable for the barratry of the sailors.

In the United States, the policy, almost invariably, provides an exception, which excuses the underwriters for all barratry of the master, where the insured is owner of the ship; and thus settles the liability of the insurer upon equitable and safe ground.

It has been held, that a deviation, arising from the disobedience of the seamen, is not barratry, unless done with design to defraud the owners.

And yet, if a captain cruise in quest of a prize, contrary to his orders, this is held to be barratry though it be done for the benefit of the owners, as well as the crew.

After bills of lading are signed by the captain, and delivered to the owners of the goods, the captain, at the instance of the crew, signs new bills of lading, changing the destination of the ship, and, by this contrivance, the goods are disposed of, for the use of the owners of the ship, and in fraud of the owners of the goods;—this, being done with the *concurrence* of the owner of the ship, is not barratry.

If the same person be owner and master, it is obvious he cannot commit barratry; but a general freighter is considered as owner of the voyage; and a deviation, without his knowledge, though with the consent of the original owners, may be barratry. Even dropping an anchor, *fraudulently*, is an act of barratry. Though the words "in any lawful trade" be inserted in the policy, still the insurer is liable, if the captain commit barratry on his own account, by smuggling.

The insurer will not be liable, unless the loss happen during the voyage, though the barratry which was the cause of it, was committed before the voyage ended. This was smuggling.

Barratry is punished as a public offence in every state in Europe.

Loss by average contribution.—General average. As insurers, by the general words of most policies, and (it is believed) of all American policies, are liable against all contributions, which are denominated general average, it is necessary to take a view of this subject; but this has already been done, to some considerable extent, [see p. 283,] and what has been noticed need not again be repeated.

Petty, or accustomed averages. These are other small charges;—as pilotage, tonnage, light money, beaconage, anchorage, bridge toll, quarantine, river charges, signals, instructions, castle money, pier money, digging the ship out of the ice, &c., which, when incurred in the usual course of the voyage, are not considered as a loss within the policy; but otherwise, if occasioned by stress of weather, they will then be considered general average.

Ransom money.—It has been held, in Massachusetts, that a sum of money *bonâ fide* paid for a ransom after capture, should form an average loss, on ship and cargo, at the time and place of incurring the expense.

Loss by salvage.—The insurer is liable for this, like average contributions, within the meaning of most policies;—(within all American policies,) according to the forms in common use. These policies contain the following clause: "And in case of any loss or misfortune, it shall be lawful for the assured, his factors, servants and assigns, to sue, labor, and travel for, in and about the defence, safeguard, and recovery of the said ———, or any part thereof, without prejudice to this Assurance, to the charges whereof the said Insurance Company will contribute in proportion as the sum assured is to the whole sum at risk." The subject must therefore, sometimes, incidentally occur, in the consideration of partial losses; but as this has already been discussed, we refer the reader to page 294.

But there are other cases than these, where the goods have been abandoned. In case of injury by sea water, or other cause, where the damage would be increased by keeping the goods on board, and they might be rendered of little or no value on arrival at the port of destination, they are sometimes sold at some intermediate port. The reason of selling them is not to take advantage of the market there, but to prevent their being spoiled, or totally lost, in consequence of damage, by the perils insured against. In such cases, though the property is not abandoned to the underwriter, the principle of abandonment is assumed, and acted upon,—and the loss is adjusted in the same manner as if an abandonment had been made; and the insurer pays for them at the invoice price, or at the valuation, and is entitled to whatever is saved, after deducting freight, and all expenses incurred. The nett proceeds are in the nature of salvage, and this is accordingly denominated a salvage loss.

Wilful or fraudulent losses.—Piracy, or robbery on the high seas, is an offence against the universal law of society; and all nations have provided for its punishment. If committed by a subject, it was anciently treason; if by an alien, felony. Now, it is only felony in a subject. Most countries, as well as the United States and several States of the Union, have provided by law for wilful destruction of ships, and other frauds.

The peril from pirates is expressly enumerated in the general form of a policy; and it seems, from old authorities, that this risk would be covered under the *perils of the seas*, though it were not insured against under the description of piracy; and in the case of charter-parties it is expressly considered a peril of the seas. A loss, by a mob overpowering the master and crew, and plundering the ship, or running her upon a reef of rocks, has been considered a loss by pirates. And under the risk of pirates and rovers, or under the perils of the seas, the insurer is liable for loss occasioned by a mutiny of the crew. *Assailing thieves* and *roving thieves* we have already noticed. But, in most cases, losses by *theft* are not chargeable upon the underwriter, because, generally, they may be prevented by proper care. The insurer is liable for theft and plunder consequent upon shipwreck.

OF ABANDONMENT.

When the voyage is lost, or not worth pursuing, and the projected adventure frustrated by any of the perils insured against, the insured is entitled to call upon the insurer as for a total loss. *But then he must abandon;* that is, he must renounce and yield up to the insurer all his right, title, and claim to what may be saved, and leave it to him to make the most of it for his own benefit. The insurer, in such case, stands in the place of the insured.

The practice of abandonment is said to be coëval with the contract of insurance; yet it does not seem to be a right, necessarily resulting from this contract, that the insurer should be compelled to become the proprietor of the ship whose safe arrival he has insured. Most probably it originated from the practice of occasionally introducing such a stipulation into the policy; and Judge Buller seemed to doubt whether it had not been carried too far, and whether it was expedient that the insured should be allowed to abandon, if the thing still existed.

This subject is divisible into the following heads, viz. 1. In what cases the insured may abandon. 2. Within what time abandonment must be made. 3. Abandonment of freight, and of commissions. 4. The form of abandonment. 5. The effect of it. 6. The ordering and disposal of the effects abandoned. Of these in their order.

1. *In what cases the insured may abandon.*—He may abandon, when, by any of the perils insured against, the voyage is lost or not worth pursuing, and the projected adventure frustrated, or where the thing is so damaged and spoiled as to be of little value to the owner, or where the salvage is very high, or where what is saved is of less value than the freight, or where further expense is necessary, and the insurer will not undertake, at all events, to pay the expenses.

In France, it is confined to five cases, viz. capture, shipwreck, stranding, arrests of princes, or the entire loss of the effects insured. The latter case probably means a *general loss*. Pothier holds it to mean an *almost* total loss. Guidon thinks it means when the loss exceeds half the value. The expression is rather vague, but it is not very important to ascertain its definite import. *In England* the right does not so much depend upon the kind of misfortune as upon the *degree of the loss* sustained by it. We recognise the same principle.

Abandonment in case of capture or arrest of princes.—Capture by an enemy or a pirate, or an arrest of princes, even an embargo, is *prima facie* or presumptive evidence of a total loss; and immediately, or at any time while the ship continues under detention, the insured may elect to abandon, and thus entitle himself to claim as for a total loss; for, from the moment of capture, the owner loses his power and right of disposal of the thing insured, and it is equivalent to a total deprivation. It would be unreasonable to oblige the insured to wait the event of the capture, detention, or embargo.

Upon a wager policy there can be no abandonment, for the insured has nothing to abandon. And upon a total loss of the thing insured, there is no need of an abandonment; and where a ship had not been heard from for six years, it was held unnecessary.

But a capture or arrest does not, necessarily, terminate in a total loss; for if, before the insured has elected to abandon, he receive advice that the ship or goods insured are recovered, or are in safety, he cannot then abandon, because he can only abandon while it is a total loss, and he knows it to be so; not after a recovery. It is otherwise in France.

The right to abandon may be kept in suspense by consent of the parties.

But a recapture does not necessarily deprive the insured of a right to abandon; for if, by the capture, the voyage is lost or not worth pursuing; if the salvage be very high; if further expense is necessary, and the insurer will not undertake for it, at all events, he may abandon.

The rule is, that if the thing insured be recovered before any loss is paid, the insured may claim as for a total or partial loss, according to the event; that is, according to the state of the case when he makes his claim. There is no vested right in the total loss, till the insured, having a right to abandon, elects so to do; for he is only entitled to an indemnity for his loss as it stands at the time of his abandonment.

If, after a total loss paid, the thing insured be recovered, the insured shall not be obliged to refund, but the insurer shall stand in his place.

Though there be a recapture, yet if the voyage be lost, or not worth pursuing, the insured may abandon.

The insured may *abandon* upon a mere *arrest* or *embargo*, by a prince not an enemy.

When the capture proves but a small temporary hindrance, the insured cannot abandon; as, if the ship be immediately ransomed and pursues her voyage.

The insured, in any case, is not obliged to abandon. He may do so if the voyage is not worth pursuing; but he cannot, merely by an abandonment, turn a partial into a total loss.

Insurance against capture, where the ship was captured and *boná fide* condemned and the ship sold at auction. The captain, who was the owner and person insured, bought her at about the fair price, at the place and time. It was held that the property was changed; that it was not a recovery of the ship, and the price paid was not in nature of ransom or salvage, and that, therefore, it was a total loss. It would be otherwise if the master had procured the sale and bought in, and the owner had accepted; for this would have been a waiver of the right to abandon.

Insurance on cargo.—A loss of more than 50 per cent. by compromise with captors, has been held a total loss, no less than sea damage, in that proportion. A loss of half the value of goods insured, though less than half the value of goods on board belonging to the insured, gives a right to abandon; but damage to articles insured, free from average, is not included in applying this rule.

Loss by the jettison of goods insured.—The claim in this case for a total or partial loss, has been considered as resting upon the same grounds as if the goods had been lost by the immediate operation of the peril on account of which the jettison is made, and without any act of the master and crew. It has indeed been held that the insured, in such case, cannot call upon the insurer until a demand has been made, in the first instance, of the persons who are bound to contribute to this loss by the jettison; and that the insured cannot, in the first instance, make an election by which a partial may be turned into a total loss by construction merely. A different opinion has been entertained in New York, where it has been distinctly adjudged, that, in such case, the insured can recover against the insurer in the first instance, upon the ground that he has expressly engaged to indemnify him against this loss. But in case of any loss by the neglect of the insured or his agents, in demanding contribution, as where the master should neglect to have an average proportioned at the port of discharge, and should deliver the goods to the consignees, and thus lose the lien upon them for the amount of contribution, it can hardly be doubted that the underwriter would be exonerated from his liability as far as the loss would have been made up by the contribution from the other parties. The master is the proper agent of the insured in this respect, whether the insured is owner of the ship or not. And this was the ground of a decision in Pennsylvania.

A mere interruption of the voyage for the season, will not operate a *total* loss on the cargo.

A blockade of the port of destination does not give a right to abandon the *cargo*, if the ship has liberty to proceed to another port.

An abandonment made after the final decree of restitution, but *before* the restitution is made, has been held not to be a total loss. This was not the case of capture by one belligerent against another; for, in such case, where there has been a capture and full possession taken by the belligerent, and that possession continues, there is a total loss.

The arrest or detention which authorises an abandonment, must be such an one as will probably be of long continuance; or at least, of which the duration is uncertain. It was held in Genoa, that a detention of the ship merely for the purpose of discharging the cargo, which was taken by government for the public service, did not give a right to abandon the ship.

It has been held, that where a ship insured was abandoned before a compromise made with the captors of the ship, the purchase of the ship by the captain is for the benefit of the insurer, if he chooses to take it; but, from other cases, we may gather this doctrine, that if the master, as agent of the insured or the insurer, (as the case may be,) act honestly and *bonâ fide* for the best interest of the concerned, that he shall not be subjected to the inconvenience and loss of taking a bad bargain, if it prove such, and losing a good one, if it turn out so; but that his act, *bonâ fide*, as agent, shall bind the principal, whether it be the insurer or the insured; and this seems the better doctrine. But if the assured refuses to adopt the act of the captain, it is his own fault; and if, thereby, a total loss arises, when, otherwise, it would have been only a partial loss, it cannot be said that the total loss is a direct and necessary consequence of the peril insured against.

It is not universally true, that, because a ship has been once captured, the insured may *abandon* at any time afterwards. The rule is, that if the thing insured be recovered before any partial loss is paid, the insured is only entitled to a partial or total loss, according to the final event. A ship is captured, and all hands but the mate and one man taken out. After 17 days she is recaptured and sent into an English port, where she arrives a month after the capture; yet, the voyage not being lost, the insured shall not be allowed to abandon after the ship's arrival.

While the ship is in the hands of the enemy, she is considered as totally lost; yet the property is not changed, but reverts in the original owner on recapture; but this does not always prevent the loss from being total, as above stated. On recapture, the property returns to the original owner, subject to salvage.

The insurer, in case of total loss, ought never to pay less than the value, nor the insured to receive more.

If, on recapture, the master sell the ship and cargo, as the best that can be done for all concerned, the insured may abandon.

If the captain purchase the ship from the captors, for account of his owners, the money being paid, this is in the nature of salvage, and is only a partial loss.

In case of a capture and condemnation, it was held that an abandonment was not necessary to the recovery of a total loss ; and the jury estimated the value of a chance of a reversal.

But, in a later case, this opinion seems to be shaken ; and the court seemed to think an abandonment necessary to the recovery of a total loss, after capture and condemnation. After all, perhaps, the distinction is, that where there is an abandonment the risk is thrown upon the insurer ; and where there is none, the insured takes his chance of recovering according to his actual loss, whether, in the event, it prove total or partial.

Of the right to abandon for other causes.—Shipwreck is a general total loss ; the wreck may remain, may be saved, but the *ship* is lost. A thing may be said to be destroyed when it is so broken, disjointed, or otherwise injured, that it no longer exists in its original nature and essence. So the goods may remain ; but if no ship can be procured, in a reasonable time, to carry them to the destined port, the *voyage* is lost and the adventure frustrated.

But a stranding is not, of itself, deemed a total loss ; for if, by fortunate accident, exertions of the crew, or borrowed assistance, the ship be got off and rendered capable of pursuing her voyage, it is not a total loss, and the insurers are rendered liable for the expense occasioned by the stranding. It is only when the stranding is followed by shipwreck, or in any other way renders the ship incapable of pursuing the voyage, or that the expense of repairs will exceed half her value, that the insured is entitled to abandon ; but it has been held in New York, that one may abandon, or not, in case of stranding.

In regard to the expense of repairs of a ship damaged by some peril insured against, to an amount exceeding half her value, it does not seem to be settled, uniformly, whether the rule adopted in partial losses, of deducting one third, between new and old, applies. The opinions are different, and the point seems undecided. The better opinion seems to be, that the rule does not apply in this case.

If, in case of damage to the ship by a peril insured against, the insurer will be at the expense of putting the vessel in proper repair, the insured cannot abandon. But although this has been ruled in several cases, yet able Judges have expressed a different opinion.

The doctrine laid down by Chief Justice Parsons, Mr. Justice Washington, and the Court of Pennsylvania, that if the insurer will, at all events, assume the expense of repairing a ship damaged by a peril insured against, the insured shall not be allowed to abandon, has been questioned by Mr. Justice Story, and Mr. Justice Smith, of Connecticut, who hold, that if the right to abandon has been once vested, that an act of the insured alone cannot defeat the right, and that so are the English authorities ; and the latter says he cannot admit that the refusal of the insurer to assume the expense of repairs, can turn a partial into a total loss, in any event. Their doctrine appears to be this, that if the loss is clearly total ; that is, if the repairs will exceed half the value, the right is absolutely vested ; and that nothing but the consent of both parties, or the waiver of the insured, can devest the right to abandon. If the repairs will not exceed half the value, the loss cannot be total. The insured cannot abandon, because a *sale* of the property has made the loss total.

No partial loss, however great, can be turned into a total loss. A ship performed her voyage; but was so damaged, as not to be worth repairing; yet as the damage was estimated by the jury at only 48 per cent.—it was held not a total loss, and that the insured could not abandon.

If a ship perform her voyage, and remain 24 hours in safety, at her port of destination, this cannot be a total loss. A similar principle prevails in case of an insurance for a term. And in case of a policy for a term, a partial loss happens, and afterwards, within the term a total loss, the insurer is liable for both.

But if the voyage be lost, from whatever cause, it is a total loss. On a voyage from Tortola to London, the ship is obliged to put back, on the third day, and cannot be repaired there, and no other ship can be procured. This is a total loss of *ship, freight, and cargo*, and the insured may abandon. If the cargo be damaged, so as to be reduced in value to less than the freight, it is a total loss.

In France, the insured may abandon goods, in case of shipwreck, though the goods may be recovered; because, in such case, they are generally much injured; but if the ship become innavigable, he cannot abandon goods, if, by any other ship, they may be conveyed in time to their place of destination.

1. *Within what time the insured may abandon.* It seems reasonable that some time should be fixed to limit the insurer's responsibility. In France, Spain, and Holland, it is limited by law.

In England, as soon as the insured is informed of a total loss, he must elect to abandon, or not. If he mean to do so, he must give reasonable notice to the insurers, otherwise he will waive his right to abandon, by unnecessary delay; for unless he does some act, signifying his intention to abandon, it will be only a partial loss, whatever may be the nature of the case. Twenty days after notice of the loss was considered too long a delay, in one case.

If an insured has abandoned to prior insurers, the whole property, he cannot abandon to subsequent insurers.

When the thing insured is taken out of the hands of the insured, by some peril, or act, not insured against in the policy, he cannot abandon. A ship, insured against sea risks only, suffered some sea damage, which constituted a constructive total loss; and was afterwards captured. It was held, that the insured could not abandon. But the actual loss may be recovered.

The insured must not take time to speculate before he elects to abandon. The delay allowed him by law is only such as circumstances may render reasonable, in order to ascertain whether the constructive loss will continue total; as in case of capture, where an acquittal or recapture may be probable; or in case of stranding, when there is a probability of getting the ship off, in a situation of proceeding, after a short delay. The doctrine of allowing the insured a reasonable time, in these cases, has been extended farther in our courts than in the English; but it has been held here, that it will be a forfeiture of the right to abandon, if the insured delays upon views of speculation.

The meaning of the clause, which enables the insured to labor, &c. for the recovery of the goods, without prejudice, &c. is that, until the insured has been informed of what has happened, and have an opportunity to exercise his own judgment, no act of the master shall prejudice the right to abandon. The insured is bound to decide, and give notice of the decision the first opportunity;—if he neglects this, he adopts the act of the agent. If the captain be continued, after notice of an abandonment, he is the agent of the insurer.

A recaptured ship is carried to a distant port, and there sold for the benefit of the insured, and the insured gave directions to the agent, to have the proceeds remitted to them; but afterwards, and four months after the insured had notice of the loss, he gave notice of the abandonment. This was held *too late.*

If the underwriter demands an abandonment of more than he has insured, this need not prevent the insured from abandoning to the amount insured; but if he neglect this, he shall not afterwards recover as for a total loss. But if the insurer in any manner prevents an abandonment, he shall pay to the full amount of the sum insured.

If there be no intelligence, in a reasonable time, the insured may abandon.

2. *Abandonment of freight and of commissions.* The general doctrines, relative to freight, have already been considered; (see p. 274,) but we have now to see how cases of freight may affect the parties, in a contract for insurance. As far as freight insured has been earned, and become absolutely due, the contract for insurance has been satisfied. If freights, between different ports, successively, and becoming absolutely due, at the several ports of delivery, are insured in one policy; and after one or more of the freights earned, a total loss upon this interest takes place, an abandonment can have relation only to the freight pending at the time of the loss; for, in respect to the freights previously earned, they have either been paid to the insured, or his claim to them has become absolute, and has ceased to be exposed to the perils insured against;—and in respect to these, the insurers are discharged.

An abandonment, therefore, can have no operation upon freight earned. A policy upon freight can only transfer certain rights and advantages in relation to freight, which is pending, in which an interest has accrued on account of a contract concerning it, and something done towards earning it. Accordingly, if the ship and cargo are both entirely lost, though the loss happen after a greater part of the voyage is performed, no abandonment is necessary to recover for a total loss of freight;—there is nothing to abandon, since the insured has not, in this case, acquired any rights, which can be of any value to the underwriters, it having become utterly impossible to earn any part of the freight insured.

Freight was insured;—the ship put back, and was sold on account of damage; and the cargo was also sold. It was objected, in an action to recover for a total loss of freight, that there was no abandonment; but the court held, that an abandonment was unnecessary, and said there was nothing to abandon.

An abandonment of freight does not transfer the right of using the ship to the insurer, to complete the earning of freight. This would be to make the contract of affreightment, or charter-party, run with the vessel; so that if the ship were, at the same time, abandoned to a different insurer, it would pass to him encumbered with an obligation to carry on the cargo to the port of destination. Lord Ellenborough said, in reasoning upon the principle,—"Put the case of a man purchasing a waggon, as it is going laden with goods;—he is not bound to carry the goods to their journey's end."

A policy upon expected profits does not seem to offer any thing upon which an abandonment can operate. In a policy on profits upon goods, if part only are prevented from arriving, it constitutes a partial loss upon this interest; but the arrival of part, however small, does not make a constructive total loss of the interest, whereby the insured is entitled to transfer the goods, or such part, and recover the whole amount at which the interest is valued in the policy. It is never considered that an abandonment of such an interest transfers any property in the goods. Under an abandonment of freight the insurer may, in some instances, avail himself individually of what has been done towards earning freight. He may receive any *pro rata* freight previous to the loss, on account of which the abandonment is made; but not so of profits, for there is not, there cannot be any profits in such case. It seems therefore, that an abandonment of profits cannot be any thing more than an idle ceremony.

Insurance on Commissions. In this case, the right of abandonment seems to depend upon the same principles as insurance on freight. The insured cannot abandon the right of earning commissions;—as far as they have been earned, and become absolutely due, the underwriters are discharged from their liability; this being equivalent to the arrival of goods at the port of destination, in the case of a policy on the cargo. The only right, then, which can pass by an abandonment, under a policy upon commissions, is that of receiving the commissions, towards the earning of which the insured has done all that he was bound to do; but the absolute claim to which, depends upon some future contingency. If a supercargo is to receive, for selling the outward bound cargo, and investing the proceeds, a certain per centage on the sales of the return cargo, and the ship is arrested on the homeward voyage, the insured may, by abandonment, transfer to the insurer the right of receiving his commissions in the event of the release, and subsequent arrival of the goods. A case of this sort seems to be the only one where any right or benefit could be transferred by an abandonment, in such an insurance;—and if so, it can only be in cases of this sort that an abandonment is necessary, under a policy insuring commissions.

It has been held, that there is no necessity of an abandonment in a re-assurance.

The re-assured could not abandon, without accepting the abandonment of the insured; since, otherwise, he has nothing to abandon; and it might be to his disadvantage to compel his assured, in all cases, to accept an abandonment.

The same peril, and to the same extent, ought to exist to authorise a recovery on a policy upon freight as on a policy upon a ship. But a constructive, or absolute, total loss of the ship, does not necessarily occasion the absolute and entire loss of the freight;—it may have this effect, but in some cases, it will only amount to a partial loss. In case of shipwreck, and where the cargo is received at an intermediate port, a *pro rata* freight, at least, is due; and so a part of the insurance contract is satisfied; this would, therefore, be only a partial loss; and in case the master is ready to carry the goods to the port of destination in another ship; but the consignees choose to receive them at an intermediate port; here there is neither a total nor a partial loss.

But in case of shipwreck, where the master hires another vessel to convey the goods to the port of destination;—although the master would not do this, unless the freight in the new ship is less than the whole freight originally stipulated; yet the event of transportation in the new ship, is contingent; and it is doubtful whether any thing will be finally realized, and no payment of freight, for any part, becomes absolute, until the actual delivery of the goods at the destined port: the whole is considered as lost, for the time, and the insured may abandon, and recover a total loss. It seems that if, in such case, the captain neglects to procure another vessel, where one may be procured, this is at the risk of the insured, and that the insurer will not, for this cause, be liable in a greater amount.

If the freight be lost by the master's not carrying the goods to the place of destination, or offering so to do, when the ship is sufficient for this purpose; though a short delay, for repairs, may be necessary, it is not a loss within the policy.

A loss of the cargo will occasion a total loss of the freight, though the ship may perform the voyage without sustaining any injury; but if, in such case, another cargo be procured for the voyage, or a part of it, the freight earned by carrying the substituted cargo, is considered in the nature of salvage under the policy. But where a ship, the freight of which was insured, put back to her port of departure, and the ship and cargo were sold there for the benefit of the owner, it was held a total loss of freight. But if the ship, so driven back, had taken in another full cargo, at a lower freight, the insured would have been entitled to the difference.

It has been held, that when the loading of an intended cargo was prevented by a temporary detention of the ship, and another cargo was subsequently procured, and the freight of this cargo earned, it was not a total loss;—the freight earned was not considered to be salvage. A *total loss of freight*, is a loss of what is at risk at the time. If any part has been earned and paid, it makes no difference, as the part paid is so much salvage in the hands of the insured, so that it would make no difference whether it is considered a total loss of the whole, or a total loss of the unpaid freight, or freight pending.

An abandonment of the ship does not take away the right of abandoning the freight, in case of a constructive total loss, by capture or detention, or sea damage. It is plain that in these cases, if the ship were not abandonded, and, being released, or repaired, performed the voyage, and the insured, having a right to abandon the freight, should do so, the insurers would be entitled to the freight earned eventually, as salvage.

The right to abandon depends upon the existing facts at the time of the last intelligence; not according to the intelligence. This was formerly held otherwise, but the law seems now to be settled, that the facts existing at the time when the abandonment is made, are to determine whether the insured has the right or not; otherwise an abandonment might be made, when there was in fact no loss at all. For instance, the last intelligence might be merely of a capture, and, at the time of abandonment, there might be a restoration.

Upon what intelligence an abandonment may be made. If upon false intelligence, it is not valid. It is doubtful whether mere newspaper intelligence is sufficient. Mere rumors of a loss cannot generally be relied upon; but if there is a report of a loss, an abandonment may be made, if the act is *bonâ fide;* and if the report proves to be well founded, an abandonment, in consequence of the report, will be effectual.

An abandonment of the ship carries with it the pending and subsequently earned freight. *In New York* it has been decided, that the freight, in such case, ought to be apportioned; and where a constructive total loss, upon which the abandonment was made, happened when the ship had performed eight-ninths of her voyage, that the insurer, upon freight, was entitled to the eight-ninths of the freight, and the insurer on the ship, to the other ninth part, which was subsequently earned. And a similar doctrine has been held in Massachusetts. The amount of the doctrine may be reduced to this plain position—*the freight of the ship belongs to the owner.*

3. *Form of an abandonment.* There is no need of a formal protest for this purpose, as in some countries is usual; and no particular form is necessary, provided it is explicit, and not to be taken as a mere inference from an equivocal fact. Where the insured informs the insurer that the ship has been stranded, and the goods damaged, and the insurer desires the insured to do the best he can with the goods, this will not turn a partial into a total loss. There must be notice of an abandonment to the insurer, or the agent who subscribed for him, if the insured means to abandon.

In general, the abandonment must be entire; not in case of effects part rotten, for that part only. But if different articles are insured by different policies, or if, in the same policy, they are separately valued, I may abandon either, though in the same policy. So, if the policy distinguish so much on *ship*, and so much on cargo, and the ship, in her course, is condemned; but not if both are insured for an entire sum.

An abandonment must be simple and unconditional. In many places, abandonments are made in writing; and courts have lamented that this is not required in all cases; but there is no provision for it in the contract. In many countries, as in this, the transfer of ships must be in writing, and in a particular manner; and the insured to whom a ship was abandoned, would be subjected, in a great measure, to the loss of the salvage, if he had no written transfer: perhaps the case has never occurred; but it may be considered, should such a case ever arise, that it would amount to a waiver of abandonment.

It was held, in one case, that a letter to the insurer, containing a statement of the loss, and enclosing an account of the sales of the property, and claiming the balance of the amount insured, after deducting the salvage, amounted to a sufficient abandonment. Sometimes, courts seem to have been more strict, and to consider, that the words *I abandon*, or something equivalent, should be expressly used.

Acceptance of an abandonment.—An acceptance may supply any *merely formal* insufficiency in the abandonment; but it is not necessary to its validity and effect, if made in due form and for sufficient cause. An acceptance, to be binding, must be made by persons authorised. Where by the act incorporating an insurance company, it was provided that no loss should be paid, without the approbation of, at least, four of the directors, with the president and his assistants, it was held, that an agreement by the president and his assistants only, was not such an acceptance as bound the company.

The mere silence of the insurer, when an abandonment is made, is not to be construed an acceptance. But it has been held, that where the insurer lies by three months, and makes no objection, and afterward refuses, that this delay on his part amounts to an acquiesence; but there seems to be no definite rule upon this subject, and there is no established prescribed mode of abandoning or of accepting an abandonment. Whether the insurer accepts or not, is a matter of construction upon his words and conduct. Any act done, in order to make the most of the property for whom it might concern, ought not to prejudice the actor in it; accordingly, where an agent of the insurer on freight superintended and directed the unloading the ship, this was not construed an acceptance of the abandonment. But where an insurer does an act in consequence of an abandonment which cannot be justified, only under a right derived from it, this is decisive evidence of an acceptance. If he should proceed to sell the vessel, with an express protest against the acceptance, and a declaration that he did it for the owner, his act would conclusively bind him. The appointment of an agent to get off a stranded ship, and taking the possession of her to get her off, and subsequently keeping possession, though for the purpose of repairing her for the use of the assured, is construed an acceptance.

Revocation of abandonment.—If the ship abandoned, is afterwards sold by the insured on his own account, this is a revocation; but the sale of the ship after abandonment, is not, necessarily, a revocation. Where an abandonment, rightful, was refused by the insurer, and the insured sold the ship at auction, to make the most of her, it was held that he was a trustee by *necessity*, of the insurer, and, acting *bonâ fide*, it was not a revocation. Ordering the sale of the cargo and a remittance of the proceeds, was held not to be a revocation. But if the insured unnecessarily involves the property in new speculations, this is receding from his abandonment. This is usually called *doing acts of ownership*, as distinguished from the superintendence intended merely for the preservation of the property. So despatching the ship on another voyage, is a revocation of the abandonment. And if the insured repairs the ship without consulting with the insurer, it will be a waiver of his claim to a total loss.

4. *Effect of an abandonment.*—It transfers the property saved from the insured to the insurer, and it has relation back to the commencement of the voyage; but an abandonment, considered as an assignment, relates to the time of the loss; and it has been held, that the abandonment itself relates only to that time. This, in *France*, is otherwise; and is carried so far there, that it transfers the freight also, which the ship has earned; *but in England, and with us*, freight is insurable separately, and an abandonment of the ship does not transfer the freight.

When the *insurance is less than the property at risk*, the abandonment is in the same proportion; the insured is his own insurer for the difference.

If goods be insured, and money borrowed on respondentia for the residue, the insurer will have a *legal* title to what is abandoned, and the lender an *equitable* claim for his proportion. But, by the law of France, the lender's claim, in such case, is preferred to that of the insurer.

If there be three policies upon one ship and cargo, one on the ship and cargo, one on the ship, and one on the cargo, Emerigon thinks, that the insurer on ship and cargo has an equal claim with the insurer on cargo only, upon the effects saved, and that he has a like claim on the freight and the remains of the ship, with the insurer on the ship. For example: if a ship be valued at £5000, cargo at £5000, and these are insured by different policies, thus: on ship and cargo, £3000; on ship, £3000; on cargo, £1000; uninsured, £1000. A shipwreck happens, and net proceeds are of the ship, £400, and of cargo £500. Total, £1000. The French and English computations would be thus:

FRENCH.	
Owners of ship and cargo uninsured,	£100
Insurer of ship and cargo, 1-2 of net proceeds,	225
Same to insurer of ship,	225
Insurer of cargo 1-2 the goods saved,	225
Same to insurer of ship and cargo,	225
	£1000

ENGLISH.	
Owners for ship and cargo uninsured,	£100
Insurers of ship and cargo, 1-2 of 3-5ths of produce of the wreck,	150
Insurer on ship, 3;5ths of the wreck,	300
Insurer on cargo, 3-5ths of goods saved,	300
Insurer on ship and cargo, 1-2 of 3-5ths of goods saved,	150
	£1000

If, after the loss is paid, compensation be made to the owner, this shall go to the insurer.

If the ship, after abandonment, arrive safe, the insurer shall have all the profit of the voyage; but he cannot compel the insured to take back the thing insured, and refund the money.

An abandonment once properly made, the loss being, in fact, total, at the time of making it, is irrevocable, except by mutual consent; but if it be made upon insufficient ground, it will be void.

An abandonment to several insurers does not make them liable as partners.

5. *Of ordering and disposal of effects abandoned.*—The meaning and intent of the clause in the policy, authorising the insured, in case of loss or misfortune, to save the effects at the expense of the insurer and without prejudice to the insurance, is often for his benefit, and imposes upon him a duty in honor, in justice, and in conscience, to save as much as possible. And it is particularly the captain's duty to employ all his skill, courage, and industry, in the protection and care of what may be saved. And he has an implied authority, both from the insurer and the insured, to do whatever he thinks best for the benefit of all concerned. He may, therefore, hire another ship to transport the property saved, or he may invest the produce of the goods saved in other goods, and ship them, which he may ship to the port of destination, and this shall bind the insurer. The goods saved are the insurer's, in case of an abandonment, otherwise they are the property of the assured. Seamen are also bound to save and preserve the goods, to the best of their power, and while so employed, they are entitled to wages; but if they refuse, they have neither wages nor reward. In this, the Rhodian law, laws of Oleron, of Wisbuy, and of the Hans Towns, all agree.

Salvage received by the assured, or lost by his default, must be deducted from the loss. An abandonment of goods, where the owners thereby become owners of the salvage, makes them liable for the freight pending at the time, which shall be finally earned. If the insurers take the goods at all, they take them subject to this incumbrance. But cases may occur, in which the goods are not worth the freight. The question arises only when the deterioration in value is occasioned by a peril insured against; for, if it arises from a peril not insured against, it seems that the insured ought not only to pay the freight, but to account to the insurers for the value of the goods in a sound state, supposing the damage to have happened before the peril, by reason of which the abandonment was made; for he is the insurer in such case. Some questions upon this point yet remain rather indefinite, and not sufficiently settled. Such injury to the goods generally happens by sea damage, and if the insurance is against capture and detention only, according to some cases, if the sea damage happens *after* the constructive total loss by capture or detention, it seems that such loss is not among the effects of the usual perils for which the insurer is liable; and should this doctrine be adopted, it would seem to follow, that the insurer may be compelled to pay a total loss, but refuse to accept the salvage, and thus avoid the charge in question. But it would seem that, in such case, the insurer ought to be required to signify, immediately, that he refuses to accept the salvage upon this ground; otherwise, the condition of the parties would not be reciprocal.

ADJUSTMENT OF LOSSES.

This is the ascertaining the amount of indemnity to which the insured, after a loss, is entitled, after proper allowances and deductions are made, and fixing the proportion each party is to receive. By the general law of merchants, the insured's contract ought not to be lucrative, but a mere indemnity, to be ascertained, not by subtilties, but by fair and open rules, the dictates of common sense, drawn from the truth of the case.

How the quantum of damage is to be ascertained.—When the loss is admitted to be *total*, and the policy is a *valued* one, the insurer is entitled to the whole sum, subject to such deductions as may be stipulated in the policy in case of loss.

Upon a valued policy and total loss in an insurance upon goods, the insured has only to prove that the goods valued were on board. *Upon an open policy* it is necessary to prove the value also, which sum, not exceeding the sum insured, the insurer is liable for.

But in case of a partial loss, an inquiry must be made as to the value, whether it be an *open* or a *valued* policy.

When there is a total loss of one individual parcel, capable of a distinct valuation, as, if out of 100 hogsheads of sugar 10 are lost, and the rest arrive safe, the insurer shall pay the value of the ten.

When part are saved, and this exceeds the value of the freight, the practice is to deduct the freight from the goods saved, and make up the loss upon the difference; but when the freight exceeds, the loss is total.

When the goods are damaged, in whole or in part, the *quantum* of damage must be ascertained by deducting their value in their damaged state, from the prime cost, and the remainder will be the amount of the loss.

If several articles are insured for one entire sum, but with a distinct valuation to each, and only one be put in risk, if that one be lost, the insurer shall recover such a proportion of the sum insured, as the value of that article bore to the whole risk.

Where there is a clause to be free from average under so much per cent., and a loss by that risk takes place, the proportion the loss bears to the whole cargo must be calculated upon the cargo, which was on board when the loss happened, and not at any other time.

DUTIES OF A MASTER.

When a vessel is wrecked, it is the duty of the Master to act as Agent for the best interests of the owner or owners and Insurance Company, and manage the property to the best of his ability.

If the property will bring a better price at home than abroad, then re-ship; but not make too great a sacrifice by selling abroad.

OF THE MODE OF ADJUSTING A PARTIAL LOSS, PROPERLY SO CALLED, ON GOODS.

The mode of adjustment hitherto treated of, is a pecuniary loss to the assured, in consequence of the merchandise insured being *depreciated* in value by sea-damage. A partial loss, properly so called, is a total loss of a part of the interest:—*ex. gr.* in an insurance on twenty hogsheads of sugar, if one be *washed out*, that is called a partial loss.

On the mode of adjustment of this kind of loss there is no difference of opinion; the amount lost must be paid for at the prime cost, or the value in the policy. Because the goods never having arrived, no reference can be had to the market price at the port of discharge; that being resorted to merely to ascertain the *quantum* of damage. Whenever there is a total loss of any *part* of the interest, it must be settled in the same manner as a total loss of the *whole.*

When a partial loss and a particular average both occur on the same interest, the most correct practice is to adjust them separately; but it may be proper to observe that this is not absolutely necessary. For, from the amount of the interest being the basis of the insurer's liability, and the market only applying to the part depreciated, the result is precisely the same, whether they are involved together or separated.

This case could not escape the quick-sightedness of *Magens*, who gives an illustration of it in his very useful work on insurance.

An example may not be improper here to show the truth of the above observation.

Let the interest be twenty hogsheads of clayed sugar — 10 of which are *depreciated* in value, and the other 10 *washed out.*—

Case 1.—*The Particular Average and the Partial Loss adjusted together.*

Amount of Interest,	£500.	
20 hogsheads, if arrived *sound*, would have produced		£600
10 hogsheads, arrived *damaged*, did produce		150
Loss and depreciation in value, 75 per cent.,		£450
£500, (amount of interest,) at 75 per cent.,		£375

Case 2.—*The Particular Average and the Partial Loss adjusted separately.*

First. The Particular Average on 10 hogsheads, damaged:—

If they had arrived *sound*, they would have produced	£300
But being *damaged*, they did produce	150
Depreciation in value 50 per cent.,	150
£250, (amount of the interest damaged,) at 50 per cent.,	£125

Secondly. The Partial Loss of 10 hogsheads washed:—

The value of 10 hogsheads, (half the interest,)	250
As in Case 1,	£375

It may be useful to notice here, that, though by a particular average and a partial loss being adjusted together, the result is the same as on a separate adjustment of each:—Yet it is far from being so in the case of a particular average, where various articles are blended together in one statement.

EXAMPLE.

First. An adjustment of a Particular Average of several articles *together*:—

10 hogsheads of Sugar, valued in the policy at		£250
10 bales of Cotton,	do.	300
10 casks of Coffee,	do.	150
	Interest insured,	£700

Depreciation in value:—		
If the said goods had arrived sound, they would have produced as follows:—		
The Sugar,	£500	
The Cotton,	100	
The Coffee,	250	
		£850
Being damaged, they did produce:—		
The Sugar,	200	
The Cotton,	25	
The Coffee,	50	
		275
Depreciated in value 67,647 per cent.,		£575
Claim, viz.—		
£700, (amount of interest,) damaged 67,647 per cent., is		£473 : 10 : 7.

Secondly. An adjustment of a Particular Average of several articles separated:

1. On 10 hogsheads of Sugar, viz.		
Value as above,		£250
Difference between the sound and damaged sales of Sugar, as above,		£300
Depreciated in value 60 per cent.		
Claim, viz.—		
£250, (amount of interest,) damaged 60 per cent.,		£150
2. On 10 bales of Cotton, viz.		
Value as above,	£300	
Difference between the sound and damaged sales as above	£75	
Depreciated in value 75 per cent.		
Claim, viz.—		
£300, (amount of interest,) damaged 75 per cent.,		£225

3. On 10 casks of Coffee, viz.—
Value as above, £150

Difference between the sound and damaged sales, as above, $200

Depreciated in value 80 per cent.
Claim, viz.—
£150, (amount of interest,) damaged 80 per cent., £120

£495

Therefore, the total claim, by involving the whole in one adjustment, is £473 : 10 : 7; but, by making separate adjustments, it is £495 : 0 : 0, which is the sum that ought to be paid by the insurers.*

It may not be amiss to illustrate the method by which the depreciation per cent. may be ascertained. Goods estimated at £850, if not damaged, but having been damaged, they were estimated at £275; hence the depreciation in value is £575.

Now, to determine the depreciation per cent., say, If £850 lose £575, what will £100 lose? and we have, by the Rule of Three,

```
£850  :  575  : :  £100
         100
       -------
850 ) 57500  (  67.647
       5100         20
       -----     ------
        6500     12.940
        5950         12
        -----    ------
         5500    11.280
         5100         4
         -----   ------
          4000    1.120
          3400
          -----
           6000
           5950
           -----
             50
```

Hence we find the depreciation per cent. £67, 12s. 11¼d. on every £100.

Observe, that in reducing the decimal .647 to shillings, &c. you must point off in each product as many figures as there are figures in the decimal part of the pounds.

Having found the depreciation per cent., we can now determine the amount of interest damaged; thus, by the Rule of Three, If £100 lose £67.647, what will £700 lose, which was the amount insured.

```
£100 : 67.647 : : £700
            700
     ------------
100)473.52900
            20
     ------------
      10.58000
            12
     ------------
       6.96000
             4
     ------------
       3.84000
```

Here we find a loss of £473, 10s. 6¾d.; this, together with the fraction, .84, makes it £473, 10s. 7d., to within .16 of a farthing.

Observe that in dividing whole numbers and decimals together, by 100, you have nothing more to do than to remove the decimal point two places towards the left hand, as in the example. In reducing the decimal to shillings, pence, &c., observe the rule in first example.

---

* This is on the assumption that average is to be paid separately on each species of goods.

OF RETURN OF PREMIUM.

Very little is necessary to be observed upon this subject. As the premium is the consideration of the risk, if that is never actually occurred, the premium is returnable ; but there are exceptions to this rule, which will be briefly noticed.

Where the risk is not run, whether owing to the fault, pleasure, or will of the insured, the premium must be returned, making the deduction provided for in the policy, which is usually half per cent. ; but if the property has been exposed to the risks insured against, for ever so short a period, so that the insurers might have been liable for a loss, there shall be no return of premium. The risk may have terminated, in fact, before the policy is made ; yet, if it be so made, that it would have applied to any loss, which might have happened during the risk, no return of premium can be demanded.

Where only a part of the value insured is exposed to the risk, the same principle applies, and the insured is entitled to a return of premium, in proportion to the part which has not been exposed to the risk.

Return of premium for prior insurance.—American policies contain a provision, that if the insured has made any prior insurance, the insurer shall be answerable only for so much as the amount of such prior insurance may be deficient towards recovering the property, and shall return the premium upon so much of the sum insured as they shall be exonerated from, by such prior insurance, excepting one half per cent., or words equivalent. In such case, the words "prior in date," if used, are equivalent to prior in time, and if different policies are executed on the same day, evidence will be admitted to show which was first executed. It is obvious, that the question of priority in such case, is applicable only where the prior policy is upon the same subjects, and against the same risks.

In an insurance against a supposed blockade, when there was no such blockade, the premium is to be returned. There is no return of premium upon the ground that the property has been exposed to only a part of the risks insured against; but it is otherwise if only a part of the property has been exposed to the risks.

And successive risks insured against in the same policy, may make a distinction, for, in such case, the premium for each of the successive risks which has not been incurred shall be returned ; but if the whole be one continued risk, if it has once commenced, the premium shall not be returned. Where there has been a contingency in a voyage, the risk has been apportioned. It depends upon the fact whether it is one voyage, or one risk, or more than one.

In an insurance for a year, and capture after two months, no return of premium was allowed. The risk to successive ports is not apportioned, and so no return of premium in such cases.

A stipulation for return of premium in case of convoy or safe arrival, or arrival without any loss. This is in the nature of an enhancement of premium, in case of loss. It is somewhat in nature of a wager, and in some degree a departure from the principle of an indemnity. It is a condition, and if it be equitably complied with, the premium is to be returned, according to the stipulation.

A forfeiture of a warranty or condition, is a ground for return of premium ; for, in such case, the risk has never attached. In consequence of a breach of warranty, without any breach, the risk is never incurred.

If the ship is not seaworthy, the risk is never run, for seaworthiness is an implied warranty, and so of any other warranty not complied with ; in all these cases there is to be a return of the premium. In one case, in Massachusetts, where a ship actually performed the voyage, yet, having a latent defect, which rendered her unseaworthy, the premium was recovered back.

A vessel was warranted Danish, and condemned as French. It was held that there must be a return of the premium, as it was a breach of the warranty; and no fraud appearing, because no risk was run, the premium was recovered back.

A forfeiture of warranty of national character, without fraud, entitles the insured to a return of premium.

Fraud in the insurer, as where he insures a ship whose safe arrival he knows of, entitles the insured to a return of premium; and some say he shall not retain the half per cent., which seems so consonant to good sense and justice, that it would be probably held as law, if such a case should come into litigation. In all cases where the insured has returned back the premium, the honesty and fairness of the insured is one of the conditions of such recovery.

But where fraud appears in the insured, as where the policy was void, on account of his concealing a letter, containing material information, the court will not adjudge a return of the premium.

If the contract is void for illegality, the premium, generally, will not be returned, but a distinction has been made between a contract executed, and a contract executory. If an action for a return of premium be brought upon the ground that the law was mistaken, before the supposed risk terminates, there have been cases where a recovery of the premium has been had. So where the voyage was illegal, for want of a license, and the insured endeavored to procure one, and had reason to believe that one would be obtained, but was disappointed; in this case he recovered back the premium.

Where both parties are equally involved in the illegal act, although the insurers could not have prevailed to recover it, yet, having received it, the insured is not permitted to recover it back, because his claim is founded in his own violation of law.

And so it has been held in New York, and upon the same ground, if the insurer has paid a loss upon an illegal policy, he is not permitted to recover it back.

How the loss shall be appreciated.—The true price of any thing is that which things of the like nature and quality are usually sold for in the places where they are situated, if real property; in the place where they are exposed to sale, if personal.

The first price is not always the true value; therefore, in a general average, the things saved contribute, not according to the first cost, but the price they may be sold for at the time of settling the average. Different rules prevail in different countries. In England, if the policy be an open one, it is an invariable rule to estimate a total loss not by any supposed price at the time of the loss, or for which they might have been sold, had they reached the market for which they were destined, but according to the prime cost; that is, the invoice price, and all duties and expenses till they are put on board, together with the premium; and this is the rule, whether the loss be total or partial on goods. Nor does the difference in exchange make any difference, for that affects not the insurance, nor was it within the contract.

A ship is valued at the sum she was worth when she sailed on the voyage insured, including the expense of repairs, the value of her furniture, provisions and stores, advance wages, and, in general, every expense of outfit,—to which is added the premium.

A partial loss on ship or goods, is that proportion of the prime cost, which is equal to the diminution in value occasioned by the particular damage.

The following case was upon a valued policy:—Sugars, valued at £30 per hogshead, were so damaged by the voyage, that they produced at the port of delivery only £20, 0*s.* 8*d.* per hogshead; but, if sound, would have sold for £23,7*s.* 8*d.*—difference £3,7*s.* 0*d.* per hogshead. The loss in this case is that proportion of £30,(the value in the policy,) which £3,7*s.* 0*d.* the difference between damaged and sound at the port of delivery, bears to £23,7*s.* 8*d.* the price of sound at the port of delivery. The amount of the loss does not depend upon the prices in the market, at the port of delivery; but the proportion of the prime cost which the loss amounts to, may be ascertained and found by the prices which damaged and sound bear to each other at the port of delivery.

An insurer is never to be involved in the rise and fall of the market.

The right of the insurer accrues upon the ship's arrival and landing her cargo. No speculation of the insured can increase or diminish the amount of the loss.

If the value in the policy exceed the interest of the insured, the loss is adjudged in the same manner as in an open policy, and the computation must be made by the real interest on board, not by the value in the policy.

Effect of an adjustment.—An adjustment, signed by the underwriters, is *prima facie* evidence against them, and sufficient of itself, if not impeached, to entitle the insured to recover, without further proof. It is not, however, conclusive; it may be impeached by evidence, but not by doubts or surmises.

Acceptance of an abandonment is an adjustment of a total loss, as total.

In case of insurance on a ship and the freight, from Calcutta to London, the ship was compelled, by sea-damage, to put back to Calcutta, where the Captain sold the ship, not being able to procure funds by hypothecation, sufficient to defray the expense of repairs; and he was of opinion, also, that the ship was so much damaged that she was not worth repairing. The jury found it to be a total loss. Chief Justice Dallas said, 'The jury have found that what was done, was done in the exercise of an honest discretion, and for the benefit of all concerned; and I see no reason to overturn the conclusion to which they have come.' Park, J. 'A case of stronger necessity to justify the sale of a ship, has seldom been made out.' Burrough, J. 'Who can doubt that the jury were correct, and the captain was warranted in all he did?' Richardson, J. dissented as to the case then under consideration, but as to the captain's authority to sell, he seems to agree with the other judges. He said, 'It is certain the assured has no right to sell except in case of strong necessity; perhaps he is not confined to a case of physical necessity, but the necessity must be such as would induce a prudent man, if uninsured, to sell.'

The same doctrine prevails in the United States. Mr. Justice Wilde, giving the opinion of the court in Massachusetts, said, 'Unless it appears that a sale was necessary, the master has no authority to sell the cargo, or any part of it, at an intermediate port.'

CALCULATION OF DUTIES.

By the Act of the 2d of March, 1833, a numerical or determinate rate cannot be affixed to articles subject to a specific duty, such as anvils, baizes or flannels, beer, ale, porter, sugar, &c. The rates, according to the Act of the 14th of July, 1832, must be invariably taken as a scale, to ascertain whether duties are over or under 20 per ct. on the invoice cost, with all dutiable charges.

Example I.

Specific Duties.

Let it be required to ascertain the duty on 100 lbs. brown sugar, at the respective periods mentioned in the Act of 2d of March, 1833. Supposing the above sugar to have cost \$4,25, or 4¼ cts. per lb. all charges, except insurance, included.

100 lbs. at 2½ cts. = \$2,50 duty per tariff of 1832.
\$4,25 × 20 = 85 cts., which is
20 per ct. on the invoice. 0,85 deduct.

1,65 excess above 20 per cent.

$\frac{1}{10}$th of this excess is 16½ or 16.5 cts.

\$2,50 less $\frac{1}{10}$, or 16½ = \$2, 33½ duty from 31st Dec. 1833, to 31st Dec. 1835.
2,50 less $\frac{2}{10}$, or 33 = 2,17 " " 31st Dec. 1835, to 31st Dec. 1837.
2,50 less $\frac{3}{10}$, or 49½ = 2,0½ " " 31st Dec. 1837, to 31st Dec. 1839.
2,50 less $\frac{4}{10}$, or 66 = 1,84 " " 31st Dec. 1839, to 31st Dec. 1841.
2,50 less $\frac{7}{10}$, or 1,15½ = 1,34½ " " 31st Dec. 1841, to 30th June 1842.
2,50 less $\frac{10}{10}$, or \$1,65 total excess = 85, which is the duty from and after the 30th June, 1842, or 20 per cent. on the invoice.

From the above example, we may establish the following general Rule for ascertaining the duty on all articles paying a specific duty.

Rule.

Ascertain the duty by the Tariff of 1832 on the article; take 20 per ct. or $\frac{1}{5}$ of the invoice cost of the article, therefrom, which call the *excess;* take $\frac{1}{10}$ of this excess from the duty of 1832, for the duty from the 31st Dec. 1833 to 31st Dec. 1835, by taking $\frac{2}{10}$, $\frac{3}{10}$, &c., you will have the duty for the periods expressed in the above calculation. From Dec. 1839 to Dec. 1841, you deduct $\frac{4}{10}$ of this excess; but, from Dec. 1841 until June 30, 1842, one half of the remainder of this excess must be deducted. Now, $\frac{10}{10}$ less $\frac{4}{10}$ is $\frac{6}{10}$, and one half of $\frac{6}{10}$ is $\frac{3}{10}$, and $\frac{4}{10} + \frac{3}{10} = \frac{7}{10}$, therefore $\frac{7}{10}$ of the excess is to be deducted from Dec. 1841 to June, 1842. After which time the duty is 20 per ct. on the invoice.

ADVALOREM DUTY.

Example 1st.

Required the duty on the following articles imported from London, (at the respective periods, mentioned in the Act of 2d of March, 1833,) which cost, per invoice, with all charges except insurance, as follows:—

Brittania ware, £80,10 at $4,80=$386,40 at 25 per ct. = $96,60
Shovels and sickles, £54,7,10 at 4,80= 261,08 at 30 per ct. = 78,32,4

Duty per Act 1832, $174,92,4
647,48 at 20 per ct. = 129,49,6

Excess above 20 per ct. 45,42,8

Its $\frac{1}{10}$ is $4,54+

$174,92 less $4,54, or $\frac{1}{10}$ is $170,38 duty from 31st Dec. 1833 to 31st Dec. 1835.
174,92 lsss 9,08, or $\frac{2}{10}$ is 165,84 " " 31st Dec. 1835 to 31st Dec. 1837.
174,92 less 13,62, or $\frac{3}{10}$ is 161,30 " " 31st Dec. 1837 to 31st Dec. 1839.
174,92 less 18,16, or $\frac{4}{10}$ is 156,76 " " 31st Dec. 1839 to 31st Dec. 1841.
174,92 less 31,78, or $\frac{7}{10}$ is 143,14 " " 31st Dec. 1841 to 30th June 1842.
174,92 less 45,43, or whole excess, is $129,49 duty from and after the 30th of June, 1842, or 20 per ct. on the invoice.

Observe, that in calculating the duties on British goods the pound sterling is estimated at $4,80. Now, 1 shilling is $\frac{1}{20}$ of a pound; therefore 1s.$=\frac{480}{20}=$24 cts. 1 penny is $\frac{1}{12}$ of a shilling; therefore 1p.$=\frac{24}{12}=$2 cts. And 1 farthing is $\frac{1}{4}$ of a penny; hence 1qr.$=\frac{2}{4}=\frac{1}{2}$ or .5 of a ct., or 5 mills.

The Rule, then, for reducing pounds, shillings, &c. to dollars and cents *in calculating the duties*, is, to multiply the pounds by 480, the shillings by 24, the pence by 2, and the farthings by $\frac{1}{2}$ or .5, as in the following example

Required the amount of £8, 7s. 6½d. in dollars and cents.

£8×480=3840 cts.
7s.× 24= 168 "
6d.× 2= 12 "
2qr.× .5= 1 "

£8, 7s. 6½d.=40,21

EXAMPLE II.

Suppose that 80 bales of blue cotton cloth to be imported from Calcutta, measuring 102300 square yards, and to have cost 26784 rupees, including all dutiable charges. What is the duty at the respective periods, per Act of 2d March, 1833, said merchandise being subject to a square yard duty?

102300 sq. yds. at 35 cts.=$35805,00, assumed value.
$35805,00 at 25 per ct. is $8951,25 duty, per Act July, 1832.
26784 rupees at 50 cts. is $13392,00 at 20 pr ct. 2678,40

Excess above 20 per ct. 6272,85

$\frac{1}{10}$ of this excess is 627,28

$8951,25, less $\frac{1}{10}$ or $627,28 is 8323,97 duty from 31st Dec. 1833 to 31st Dec. 1835.

Proceed in the same manner for the duty for subsequent periods as in the preceding examples. If the duty for 1832 does not exceed 20 per ct. on the invoice, the duty for subsequent periods remains the same as in that year.

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EXPLANATION

OF LAW TERMS AND OTHER WORDS.

Abandon. To forsake, or relinquish and give up.
Accrued. Arisen from.
Adjudication. The judgment or sentence of a court.
Adjudged. Decreed by a court.
Affreightment. The lading of a ship.
Aggregate. The sum or amount of.
Allegation. Something affirmed or declared.
Alien. A foreigner.
Ambiguous. Of doubtful or uncertain meaning.
Analogy. Resemblance.
Annulled. Made void or of no effect.
Apportioned. Divided into proportioned parts.
Apportionment. A division in just proportions.
Assignee. The person to whom a thing is assigned or transferred.
Assurers, or insurers. Persons who take upon themselves a risk for another.
Barratry. A fraud by master or mariner against the owner of the ship.
Belligerent. A nation at war with another, or a subject of such a nation.
Blockade de facto. A blockade accompanied with sufficient force.
Bona fide. With good faith, or in good faith.
Bottomry. The name of a contract by which a ship is pledged for money lent.
Breach. A violation of something, as of a contract, or of orders.
Coeval. Of the same age.
Conclusive. By certain consequence or effect.
Chancery. A court of equity and conscience, established to moderate the rigor of strict law.
Charterer. The person who hires a ship to use her for a certain time, or for a certain service.
Civil Law. The law of the Romans.
Cognizance. Judicial notice, or official notice of some court.
Collateral. Not direct, but having relation to.
Commentators. Writers, whose works are intended to explain the subjects upon which they write.
Common Carrier. A person who keeps and uses a wagon, or other carriage, to convey goods from place to place, for all persons who wish to have goods transported.
Common Law. The rules and principles which are not found in acts of the Legislature, but which have been settled and established as law by the practice of ages and immemorial use.
Corollaries. Conclusions or things which may be inferred from something laid down.
Consignee. The person to whom goods and merchandise are sent by another person, who is called the consignor.
Consignor. The person who ships goods and merchandise, and sends them to another.
Consonant. *As used in this work,* is agreeable to.
Concurrence. Union, agreement with.
Contraband. Prohibited.
Contingent. Dependent upon the happening or not happening of something future.
Contravention. Opposition.
Court of Admiralty. A court having jurisdiction of matters on the high seas.
Countermand. To recall.
Covenant. A contract entered into under a sealed instrument.
Covenanted. Contracted by an instrument under seal.
Deed. An instrument under seal.
Defendant. The person who is summoned into a court by another, and is called upon to defend himself against some charge or demand.
Defeasible. Liable to be made void upon some future event.
Delinquent. Found wanting in the performance of some duty.
Deterioration. The act of growing worse.
Demurrage. An allowance to the master or owner of a ship for staying in a port longer than the time allowed.
Disbursing. Laying out or expending.
Distrain. To seize and take possession of something to enforce a payment of money, or the performance of some duty.
Domicil. Place of a person's home.
Egress. The going out, departure from.
Embezzlement. The act of appropriation, by breach of trust, the thing appropriated.
Exchequer Court. The court where matters which concern the revenue are determined.
Executor. A man who is appointed by the last will of another to settle his estate, and represent his person after his death.
Executrix. A woman so appointed, &c. &c.

Expedited. Despatched, hastened.

Factor. One who acts for another.

Fallacious. False.

Felony. An infamous offence.

Fictitious. Not real, imaginary.

Hostage. One given in pledge for the performance of a condition.

Hostile Embargo. An embargo that seems to be preliminary to a war.

Hypothecate. To put in pawn or pledge for a loan.

Illicit. Unlawful.

Immunity. Discharge from obligation, pardon, privilege, exemption.

Imbecility. Weakness.

Incidentally. Occasionally, casually.

Impeached. Called in question as improper, unfair, incorrect, or unlawful.

Incumbent. *As used here,* when speaking of some duty, means that the duty spoken of, lies upon him to whom the word is applied.

Indemnity. Safety from harm and expense against future circumstances.

Indefinite. Not fixed or rendered certain.

Ingress. Going into—applied in this work to entering into some port.

Inherent. Existing in something else.

Insolvency. Inability to pay debts.

Interpleader. A term used when a point is discussed which incidentally comes up before the main cause is decided.

Interrogataries. Questions.

Irrevocable. That which cannot be revoked.

Jettison. Imports the act of throwing part of the cargo overboard in time of danger, to save all the rest and the ship. It is also applied to the thing which is thus sacrificed for the safety of the whole.

Judicial. Pertaining to courts and legal proceedings.

Jurisdiction. Legal authority—sometimes the territorial limits within which an authority exists.

Jurisprudence. The science of law.

Law of Nations. Certain principles and doctrines which are established and practised upon by long and settled usage in all nations of the Christian world.

Laws of Oleron. Laws of an ancient ordinance, so called because they were framed and declared in that island.

Legal. Lawful.

Legalize. To render or make lawful.

Libellant. The name generally of the prosecutor or plaintiff in a suit in the admiralty court.

Lien. Is the right a person may have to retain the possession of a particular thing for securing the payment of something due, or the performance of something to be done.

Liquidate. To clear away, to lessen, or to settle.

Literally. Minutely, precisely, even to exactness.

Litigation. Controversy in courts.

Local. Appertaining to the place.

Manslaughter. The act of killing a reasonable being without previous malice.

Marine Ordinances. The rules and regulations which nations have adopted for the government of affairs upon the high seas.

Maritime Interest. The rate of interest agreed upon between the parties upon a bottomry or respondentia contract.

Maritime Law. The law which relates to ships and mariners' affairs.

Militate. To run, or operate in opposition to.

Monopoly. The exclusive right to the privilege or thing to which the word is applied.

Mortgagor. The person who puts his property in pledge for the performance of some condition.

Mortgagee. The person who receives such a pledge.

Municipal. In strictness confined to the affairs of a city or free town; but, by use, applied to the internal affairs of a kingdom or state.

Muniments. As here used, papers or instruments which exhibit proofs of title.

Neutrals. Persons or nations not involved in an existing war.

Nugatory. Of no effect.

Obligor. The person who lays himself under some obligation to another by a deed or instrument under his seal.

Open Policy. A policy of insurance in which the contracting parties have not agreed upon the value of the thing insured.

Ordinances. Rules of law—applied herein to the general requisitions of maritime affairs by the law of nations.

Pendency. Sometimes denotes the being in a state of continual existence—sometimes the state of remaining unsettled.

Plaintiff. The person who calls another into court. So called because he makes his complaint or plaint for the injury he seeks to have redressed.

Precedent. An example.

Prima facie. Apparently, at first sight, by presumption.

Priority. The situation of being first in order.

Privity. Sometimes imports with the knowledge of—sometimes it means a connection with, or a relation to the person or thing to which the word is applied.

Pro rata. According to a fair rate or proportion.

Quantum. Quantity, sum, or amount of.

Quere. As here used—it may be asked, or it is questionable—or it is not absolutely clear.

Ratable. Proportionable.

Refund. To repay.

Reprisal. That which is seized by way of recompense for any act of fraud or violence.

Respondentia. The name of a loan upon which goods on board a ship are pledged for the payment.
Reciprocal. Operating upon both parties.
Reversal. Applied to a judgment or sentence—means the setting it aside.
Revocation. The act of recalling.
Salvage. Any thing saved from the wreck or loss of property insured.
Solvency. Ability to pay.
Specific. As herein used, made certain, clearly and distinctly pointed out.
Statutes. Written laws enacted and published by a legislature.
Stipulation. A contract or a part of a contract, or a bargain.
Stoppage in transitu. Is stopping on the way or passage; that is, after shipment, and before any actual or legal delivery to the consignee.
Subordinate. Inferior to, or under.
Subsequent. After, or later.
Subtilties. Niceties, refinements, cunning, artifices.
Technical. Applicable to some particular act or science.
Tortious. By wrong, wrongful.
Transfer. To make over from one to another.
Tranship. To transport in another ship.
Transversely. As used herein, means crosswise; that is, as applied to writing on an instrument to write across the former writing upon it.
Underwriter. Insurer.
Usage. A practice settled by uniform custom.
Usury. A rate of interest beyond what is allowed by law.
Vacate. To annul or render ineffectual.
Vague. Uncertain.
Valid. Of full force.
Validity. The state of being firm and binding.
Valued policy. A policy where the value of the thing insured is fixed by agreement.
Vendee. Purchaser.
Vendor. Seller.
Venial. Pardonable, excusable.
Vested. Fixed, settled.
Vitiate. To corrupt or render criminal or unlawful.
Void. Empty, of no effect.
Wager. As applied to a policy of insurance means a contract to make insurance when there is nothing at risk.
Waiver. The relinquishment of some right.
Warranty. A stipulation of facts or engagements in insurance, which, if untrue or unperformed, destroys the contract from the beginning.

ERRATA.

Page 45, first example, for " Suppose a package be in length 5 ft. 10 in., breadth, 4 ft. 6 in.," &c. read Suppose a cask be in length 3 ft. 10 in. its head diameter 2 ft. 4 in., and its bung diameter 2 ft. 8 in.; what are its solid contents?—Page 46, line 22 from top, for " 1-3d the beam," read 1-5th the beam.—Page 47, line 7 from bottom, for " 15.10 2-5ths" read 15.11 2-5ths.—Page 47, line 6 from top, for " 53 ft. 4 in," read 23 ft. 4 in.—Page 63, line 7 from top, for " right hand," read left hand.—Page 76, line 3 from bottom, for $\frac{41}{1000}$ read $\frac{41}{100}$—Page 84, line 3 from top, for " E xnt," read Extent.—Page 109, line 10 from top, for " 8 ft. 9 in." read 3ft. 9in.—Page 109, line 13 from bottom, for " $4,5.\frac{5}{10}$" read $4,5\frac{5}{10}$ Page 118, line 11 from top, for " at Aries," read from Aries.—Page 121, line 27 from top, for K S, read X S.—Page 173, line 11 from top, for " rixds. convention money," read 100 rixds. convention money.—Page 175, line 12 from top, for " 1 pezza of 8 reals," read 1 piastre. Page 206, line 7 from bottom. for " into money of exchange," read into money of Leghorn : exchange at, &c. Page 245, line 24 from bottom, for " minority not be compelled," read minority might not be compelled. Page 275, line 4 from bottom, for " neither does an entry," read, neither does such an entry. Page 151, line 15 from top, for $10\frac{0}{5}\times 5$ 100, read $10\frac{0}{5}\times 5=100.$ Same page, beginning at line 15 from top, for $\begin{array}{c}100\\1=5\\5=1\end{array}$ read $\begin{array}{c}100\\1=5\\5=1\end{array}$ Beginning at line 21 from top, for $\begin{array}{l}100\text{ term of demand.}\\1=\\5=\end{array}\Big\}\div 5=\begin{array}{l}1=\\5=\end{array}\Big\}$ read $\begin{array}{l}100\text{ term of demand.}\\1=5\\5=1\end{array}\Big\}\div 5=\begin{array}{l}1=1\\1=1\end{array}\Big\}$. Hence, &c.

REMARKS.

It will be necessary for me to observe that in page 46, (and to the 50th inclusive,) there are several errors of this kind, $\frac{3}{12}=25$. Here the decimal point is omitted. It should be $\frac{3}{12}=.25$, or 25 *hundredths.* Let the reader correct similar omissions of this point. Again, under the caption, " The same by Duodecimals," 69.6 and 13.6, it will be seen that a period was unfortunately placed before 6 inches, which makes it six tenths of an inch. This need not create the least embarrassment, if proper attention be paid to the Proposition, and the directions under the head of Preparation, page 46.

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